BABKIN, I.Yu.; KISELEV, A.V.; KOROLEV, A.Ya.

Heats and entropies of adsorption of hexane and benzene vapors on aerosols whose surface has been modified with trimethylsilyl groups. Dokl. AN SSSR 136 no.2:373-376 '61. (MIRA 14:1)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova. Predstavleno akademikom M.M. Dubininym.

(Heat of adsorption) (Entropy) (Hexane) (Benzene)

S/069/62/024/006/001/009
B101/B180

AUTHORS: Aristov, B. G., Babkin, I. Yu., Kiselev, A. V.

TITLE: Adsorption and heat of adsorption of vapors on alkoxylated silica

PERIODICAL: Kolloidnyy zhurnal, v. 24, no. 6, 1962, 643 - 647

TEXT: Aerosil gels containing groups of 1, 4, or 8 C atoms on their surface were obtained by treating aerosil with absolute methanol at 300°C, or with n-butanol or n-octanol at 280°C and by subsequent evacuation. The specific surface of the aerosils remained unchanged. When vacuum heated the modified layer of the butoxylated specimen was stable up to 350°C. Modification of the surface lowered the N_2 adsorptive capacity at -195°C and the adsorption heat of H_2O, CH_3OH, and C_6H_6. At low degrees of adsorption, the surface showed marked energetic inhomogeneity, particularly the methoxylated one. The adsorption isotherms of H_2O, CH_3OH, and C_6H_6, became convex. Adsorption decreases as the length of the modifying radical increases, C_6H_6 being adsorbed more strongly than CH_3OH. This is attributed

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to the increasing contribution of the entropy term in the equation for the adsorption equilibrium C_6H_6 molecules adsorbed on a layer of long radicals are less mobile than in the liquid state, while methanol molecules are firmest on a methoxy layer. As the imperfections of the modified aerosil surface are completely covered by water even at a small p/p_s ratio, adsorption will be very low at a high p/p_s ratio. There are 4 figures and 1 table.

ASSOCIATION: Moskovskiy universitet, Khimicheskiy fakul'tet, Laboratoriya adsorbtsii i gazovoy khromatografii (Moscow University, Division of Chemistry, Laboratory of Adsorption and Gas Chromatography)

SUBMITTED: September 4, 1962

BABKIN, I. Yu.; KISELEV, A. V.

Increase in adsorption energy in the compression of nonporous silica particles with a chemically modified surface. Koll. zhur. 24 no.6:648-650 N-D '62. (MIRA 16:1)

1. Laboratoriya adsorbtsii i gazovoy khromatografii, khimicheskiy fakul'tet Moskovskogo universiteta.

(Heat of adsorption) (Silica)

S/076/62/036/011/010/021
B101/B180

AUTHORS: Babkin, I. Yu., and Kiselev, A. V. (Moscow)

TITLE: Adsorption and heat of adsorption of various vapors on a trimethylsilated aerosil surface

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 11, 1962, 2448-2456

TEXT: The vapors were carbon tetrachloride, methanol and water, on the surface of a tridymite aerosil covered with a layer of grafted trimethyl silyl groups which greatly reduced the adsorption. The adsorption of nonpolar CCl_4 is not affected by defects in the trimethyl silyl layer, but that of methanol and water occurs first in these placed with formation of H bonds. The modifying layer reduces the selectivity of the aerosil surface with regard to large non-polar molecules such as C_6H_6, C_6H_{14}, and CCl_4, making their heats of adsorption lower than those of condensation. The variation in the entropy curve (Fig. 7) shows that hydrocarbon molecules adsorbed on the surface have greater mobility than in the liquid, whereas the methanol and water molecules are localized in the layer

Card 1/3

defects, particularly in the first stage of adsorption. Tridymite covered with trimethyl silyl groups has lower adsorptivity than graphitized carbon black for nonpolar molecules. The adsorption of CH_3OH on modified tridymite, however, is at first higher than on graphitized carbon black, because H bonds are formed with the hydroxyl groups of the layer defects. In the whole range investigated water is adsorbed on tridymite more strongly than on carbon black. There are 9 figures and 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova, Khimicheskiy fakul'tet (Moscow State University imeni M. V. Lomonosov, Chemical Division)

SUBMITTED: July 7, 1961

Fig. 7. Change in adsorption entropy on trimethylsilated aerosil for (1) CCl_4; (2) C_6H_6; (3) C_6H_{14}; (4) H_2O; (5) CH_3OH

44898

S/076/63/037/001/027/029
B101/B186

5.4400

AUTHORS: Babkin, I. Yu., Kiselev, A. V.

TITLE: Isotherms and heats of adsorption of various vapors on the hydrated surface of various silicas

PERIODICAL: Zhurnal fizicheskoy khimii, v. 37, no. 1, 1963, 228 - 232

TEXT: The 20°C isothermal line and the heats of adsorption of H_2O, CH_3OH, C_6H_6, and CCl_4 were plotted for Degussa aerosil, s_{N_2} = 180 m^2/g, and powdered silica gel БС-280 (BS-280), s_{N_2} = 340 m^2/g. The aerosil was treated with water vapor at 200°C for 8 hrs; and at 275°C for 10 hrs, whereupon s_{N_2} fell to 136 and 43 m^2/g, respectively. BS-280 was treated with water vapor at 350°C whereupon s_{N_2} was 30 m^2/g. Before measurements were made and the curves for α (absolute adsorption) versus p/p_s and for

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Isotherms and heats of adsorption...

Q_a (the differential heat of adsorption) versus α at 20°C were plotted, the samples were kept in vacuo at 150°C for 25 - 30 hrs. Results: The curves α_{H_2O} versus p/p_s and Q_a versus α_{H_2O} are the same for the two silicas, and agree with the curve obtained earlier for KCK-2 (KSK-2) silica gel. The same was observed for CH_3OH and C_6H_6. The isotherms and the dependence of Q_a on the degree of adsorption were found not to depend on the type and dispersity of a silica with hydrated surface. The adsorption of CCl_4 was measured on silica with hydrated surface and on silica dehydrated in vacuo at 800°C (s_{N_2} = 100 m^2/g). Result: The adsorption and the heat of adsorption of nonpolar CCl_4 are low and do not depend on the degree of surface hydration. There are 4 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova, Khimicheskiy fakul'tet (Moscow State University imeni M. V. Lomonosov, Chemical Division)

SUBMITTED: April 10, 1962
Card 2/2

L 12730-63 EPR/EPF(c)/EWP(j)/EWT(m)/BDS AFFTC/ASD Ps-4/Pr-4/Pc-4 RM/WW
ACCESSION NR: AP3002285 S/0062/63/000/006/1017/1022 75 73

AUTHOR: Aristov, B. G.; Babkin, I. Yu.; Borisova, F. K.; Kiselev, A. V.; Korolev, A. Ya. 15

TITLE: Changing the surface properties of polyethylene by oxidative treatment

SOURCE: AN SSSR. Izv. Otdeleniye khimicheskikh nauk, no. 6, 1963, 1017-1022

TOPIC TAGS: surface properties, polyethylene, oxidizing, surface polarity, adhesive properties, adsorption

ABSTRACT: Treating polyethylene with an oxidizing chrome composition (potassium dichromate and sulfuric acid) for 5 minutes at temperatures below 120 degrees) sharply increased its surface polarity, thus improving its adhesive properties, permitting gluing with polar adhesives and printing with inks. Oxidative treatment of low-pressure powdered polyethylene hardly changes its specific surface, as determined by very little difference in low-temperature adsorption of nitrogen between untreated and strongly oxidized material. However, the irreversible adsorption of water and the heat of adsorption were greatly increased, this adsorption being proportional to the degree of oxidation of the sample. Orig. art. has: 3 figures and 1 table.

Association: Moscow St. Un., Inst. of Physical Chemistry

Card 1/2/

ARISTOV, B.G.; BABKIN, I.Yu.; DAVYDOV, V.Ya.; KISELEV, A.V.

Effect of the compression of aerosil on the adsorption energy of nitrogen and carbon tetrachloride vapors. Zhur.fiz.khim. 37 no.10: 2372-2374 O '63. (MIRA 17:2)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova i Institut fizicheskoy khimii AN SSSR.

18.7200
~~18(7)~~

67862

SOV/125-60-1-5/18

AUTHOR: Gorskiy, V.V. and Babkin, L.T. (Moscow)

TITLE: An Investigation Into the Process of Roller Welding Thin-Sheet Stainless "1Kh19N9T" Steel

PERIODICAL: Avtomaticheskaya svarka, 1960, Nr 1, pp 38-45 (USSR)

ABSTRACT: An investigation was undertaken to find a reliable parameter for checking the quality of a weld during the welding process. The value of the welding, the amount of electrical energy used from the network or fed to the welding machine electrodes, and the thermal expansion of metal in the welding contact were chosen as possible parameters. Experiments were conducted to ascertain which of the three best determines the quality of the welded point. The experiments and the experimental machine MShM-50 (Figure 1) are described in detail. The machine includes an ignitron interrupter. The basic parameters of the process were registered by an MPO-2

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An Investigation Into the Process of Roller Welding Thin-Sheet Stainless "1Kh19N9T" Steel

oscillograph with a resistance and shunt-box (type P1). A special device was developed for feeding the bridge with a high-frequency current (4,600 cycles) and for increasing the voltage taken from the bridge's measuring diagonal. A detailed description of this device and the measures taken to counteract interference from the magnetic fields of the welding current will be published in a separate article. It was concluded: 1) That heat expansion of metal in the welding contact is the suitable check parameter; 2) That energy liberated in the welding contact is an inadequate test of the quality of the joint; 3) That current and voltage-drop in the welding contact are not directly related to the depth of fusion; 4) That the resistance of the welding contact cannot be considered a reliable check parameter for the quality of the joint. There are 1 diagram, 1 oscillogram, 5 graphs, and 18 refer-

67862
SOV/125-60-1-5/18

An Investigation Into the Process of Roller Welding Thin-Sheet Stainless "1Kh19N9T" Steel

ences, of which 11 are Soviet, 5 English, 1 Slovak, and 1 Japanese.

SUBMITTED: May 25, 1959

Card 3/3

BABKIN, L.T. (Petropavlovsk-Kamchatskiy)

Problem of lambliasis. Klin.med. 37 no.10:67-68 O '59. (MIRA 13:2)

(GIARDIASIS)

S/125/60/000/010/012/015
A161/A133

1.2300

AUTHORS: Gorskiy, V.V., and Babkin, L.T. (Moscow)

TITLE: A Device Measuring the Thermal Expansion of Metal in Roller Welding

PERIODICAL: Avtomaticheskaya svarka, 1960, No. 10, pp. 72-81

TEXT: The article gives a detailed description of a new device measuring the thermal expansion of metal between contact welding rollers. Its indications show the quality of the formed weld. The device (Fig.1) consists of bellows-sealed chamber (1), hydraulic cylinder (2), differential induction pickup (3) and electromagnet (4). The chamber bottom is soldered to base (5) connecting the device with the mobile roller of the welding machine (Fig.2), and its top to the hydraulic cylinder. The chamber and the cylinder are filled with oil to the level shown by the dotted line. A hollow piston (6) moves in the cylinder. The top and bottom cylinder spaces are connected by a by-pass duct (7). Piston rod (8) carries armature (9) of the electromagnet (4) and armature (10) of pickup (3), which are both placed in housing (11) screwed to the cylinder. Ring (12) changes the position of the magnetic conductors of

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A Device Measuring the Thermal Expansion of Metal in Roller Welding

the pickup in relation to the armature. Pins (13) on insulating disks (14) are conducting current to the windings of the magnet and the pickup. The electric circuit is shown in Fig.2. The electromagnet winding is connected to the circuit of the 6 (L6) thyratron of the multivibrator of the [illegible] (PISh) ignitron controller described in Ref.2. The L6 thyratron is open in the intervals between the welding cycles, and armature (9) fixes the start of the reading. When the interval is over, the L6 thyratron extinguishes and the electromagnet releases the armature, and with it the whole mobile part of the measuring device. The [illegible]7 (L7) thyratron ignites at the same time, and current flows into the welding circuit of the machine. The windings of the induction pickup form the arms of a bridge (M) that is fed from a tube generator (1,100 cps, 18 v). Electronic amplifier (4) amplifies the voltage transmitted to an [illegible]-2 (MPO-2) oscillograph. Fusing metal expands between the rollers, and the upper roller and base (5) rise. Armature (10) moves off zero and unbalances the bridge. The voltage on the amplifier output is in proportion with the displacement of the upper roller. The hollow piston is made of duralumin, the two armatures of 0.35 mm transformer steel, and the

A Device Measuring the Thermal Expansion of Metal in Roller Welding

weight of the piston rod and armature only slightly exceeds the weight of the oil displaced by the piston in cylinder (2). Thus, the mobile system reproduces accurately the oil volume changes in the chamber at fast displacements of the rollers. A mobile electrode with built-in measuring device is illustrated (Fig.3). The device is placed inside hollow slider (16). Base (5), bus bar (17) and supporting half-fork (18) of the upper roller are attached to the flange of the slider. Eight roller bearing supports (not shown in Fig.3) reduce the friction of the slider on casing (23). Spring (27) is the resilient element transmitting fast displacements of roller (19) from thermal expansion of the metal. Tubes welded with overlap joint are installed on mandrel (22). Three recorded oscillograms are shown (Fig.4). It is mentioned that D.S. Balkovets (Ref.4) and Yu.A. Pachentsev (Ref.5) have proved that the thermal expansion of metal in spot welding contact is a dependable means for quality inspection, but objections were made (Ref.6) against its practical application. The authors found that when 0.1 to 0.5 mm thick stainless steel is welded by rollers, the cast core forming in the weld at a welding speed below 0.3 m/min and intervals over 0.1 sec is the same as

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A161/A133

A Device Measuring the Thermal Expansion of Metal in Roller Welding

in spot welding. The following conclusions were drawn: 1) The device is simple, and it measures the spreading of welding rollers with an accuracy not below $(3\div5)10^{-3}$ mm. 2) When 0.1-0.5 mm stainless steel is welded by rollers, the metal in contact heats and then partially cools down, as if it were "breathing" in beat with the half-cycles of the welding current. 3) At welding speeds below 0.4 m/min the liquid metal does not shift any considerable distance toward the ready welded seam portion. The rollers spread slightly less than in spot welding. 4) When the metal thickness is reduced from 0.5 mm to 0.1 mm, the ratio of the maximum signal (corresponding 45-55% fusion depth) to the minimum (non-fusion) is 1.4-1.5 and remains constant. 5) When the tube diameter diminishes and the wall thickness remains the same, the spreading of the rollers decreases when the fusion depth does not change. 6) Irregularities of the welding process can be recorded, i.e., a drop of the network voltage, gaps in breaker ignitron, resistance variations in the machine circuit, pressure variations between the rollers, changed roller surface width, etc. 7) An automatic control system for roller welding process can be designed using the thermal expansion of metal in the welding contact

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S/125/60/000/010/012/015
A161/A133

A Device Measuring the Thermal Expansion of Metal in Roller Welding

for the controlled parameter. There are 10 figures and 8 Soviet-bloc references.

SUBMITTED: April 20, 1960

Card 5/5

BAHKIN, L.T. (Petropavlovsk-Kamchatskiy)

Some data on the epidemiology, diagnosis, clinical aspects and treatment of opisthorchiasis in Kamchatka. Klin.med. 38 no.3: 52-56 Mr '60. (MIRA 16:7)
(KAMCHATKA—DISTOMATOSIS)

35116
S/125/62/000/006/006/013
D040/D113

1.2300

AUTHORS: Babkin, L.T., and Gorskiy, V.V. (Moscow)

TITLE: Automatic control system for resistance welding

PERIODICAL: Avtomaticheskaya svarka, no. 6, 1962, 39-47

TEXT: In the described system for automatic resistance seam welding of 0.2-1.0 mm thick stainless steel, the thermal expansion of the metal in contact serves as controlling parameter. The device measuring the expansion, i. e. the spreading of the contact rollers, was invented by the authors and A.A. Gusev (Author's Certificate no. 130233, "Byulleten' izobreteniy", no. 14, 1960). The system's main components are a programming unit, an ignitron contactor connecting the primary winding of the welding transformer to the electric network, a unit for setting the welding pulse and interval time, a tube generator supplying current to a measuring unit which transforms the spreading of rollers into electric voltage, an amplifier on the output of this unit, a peak detector detecting the output voltage from the amplifier output and feeding it to a unit which subtracts it from the voltage of

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Automatic control .....

the programmer. The system is illustrated by block and circuit diagrams, and the operation of each component is described in detail. Welding current is instantaneously switched off when liquid metal splashes out, or an intolerably high error is signalled. Welded seams remain continuous, with only a very small depth of fusion, when the pressure varies by 2.5 times, the roller width varies by 1.5-1.7 times, the voltage drops by 80-100 v, etc. There are 10 figures.

SUBMITTED: April 1, 1961

Card 2/2

BABKIN, L. T.

Lamblia and Opisthorchis carrier states in Kamchatka. Klin. med. no.2:98-100 '62. (MIRA 15:4)

(KAMCHATKA--GIARDIASIS) (KAMCHATKA--DISTOMATOSIS)

L 21522-66 EWT(m)/EWP(j)/T/ETC(m)-6 WW/DJ/RM

ACC NR: AP6009899 SOURCE CODE: UR/0413/66/000/004/0091/0091

INVENTOR: Babkin, M. I.; Bivin, Yu. K.; Voytsekhovskiy, A. I.; Alekseyev, L. I.; Sukhoruchenko, V. A.

55
B

ORG: none

TITLE: Device for generating pressure pulses in a liquid. Class 42, No. 179050

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 91

TOPIC TAGS: hydraulics, hydraulic control, hydraulic control system, pulse generator

ABSTRACT: The proposed device contains a working chamber connected to a hydraulic cylinder with a piston which senses the kinetic energy of the feed load by means of a gage. To generate various-shaped pressure pulses and to regulate the moment of initiation and the rate of pressure drop in the working chamber, the piston is made in the form of a glass which is covered on the bottom by a diaphragm which ruptures at a given pressure. The glass has a longitudinal slit and radial openings which connect the internal piston cavity at a certain position in respect to a cylinder with an

Card 1/2 UDC: 621.227.3:620.1.05

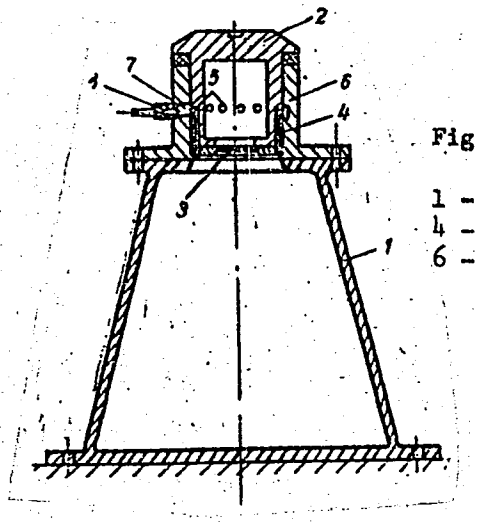

Fig. 1. Liquid pulse generator

1 - Working chamber; 2 - piston; 3 - diaphragm; 4 - longitudinal slot; 5 - radial openings; 6 - cylinder; 7 - annular groove; 8 - throttle.

annular groove on the internal surface of the latter. The groove is connected through a throttle to the overflow duct (see Fig. 1). Orig. art. has: 1 figure. [TN]

SUB CODE: 21/ SUBM DATE: 26Jan65/ ATD PRESS: 4222

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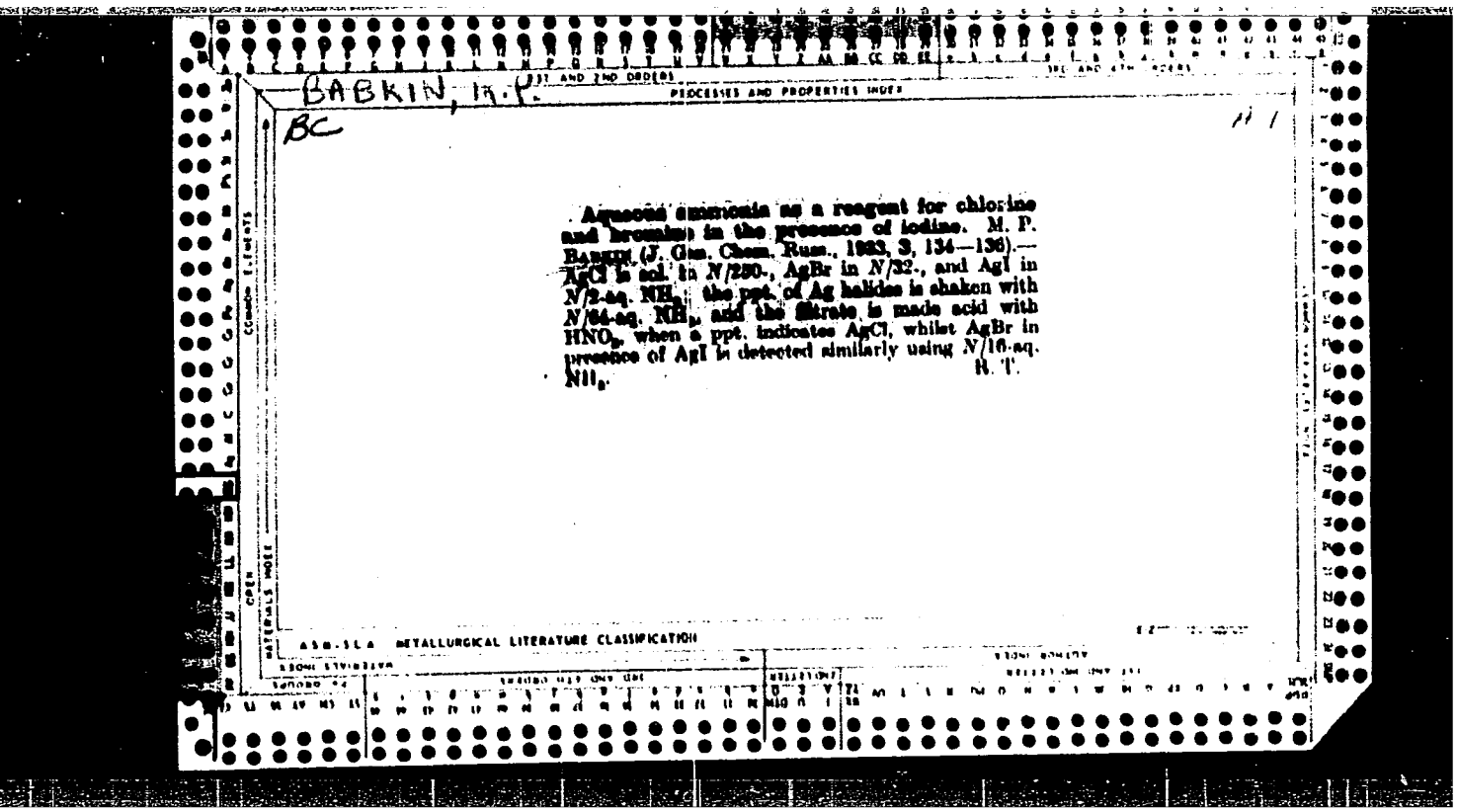


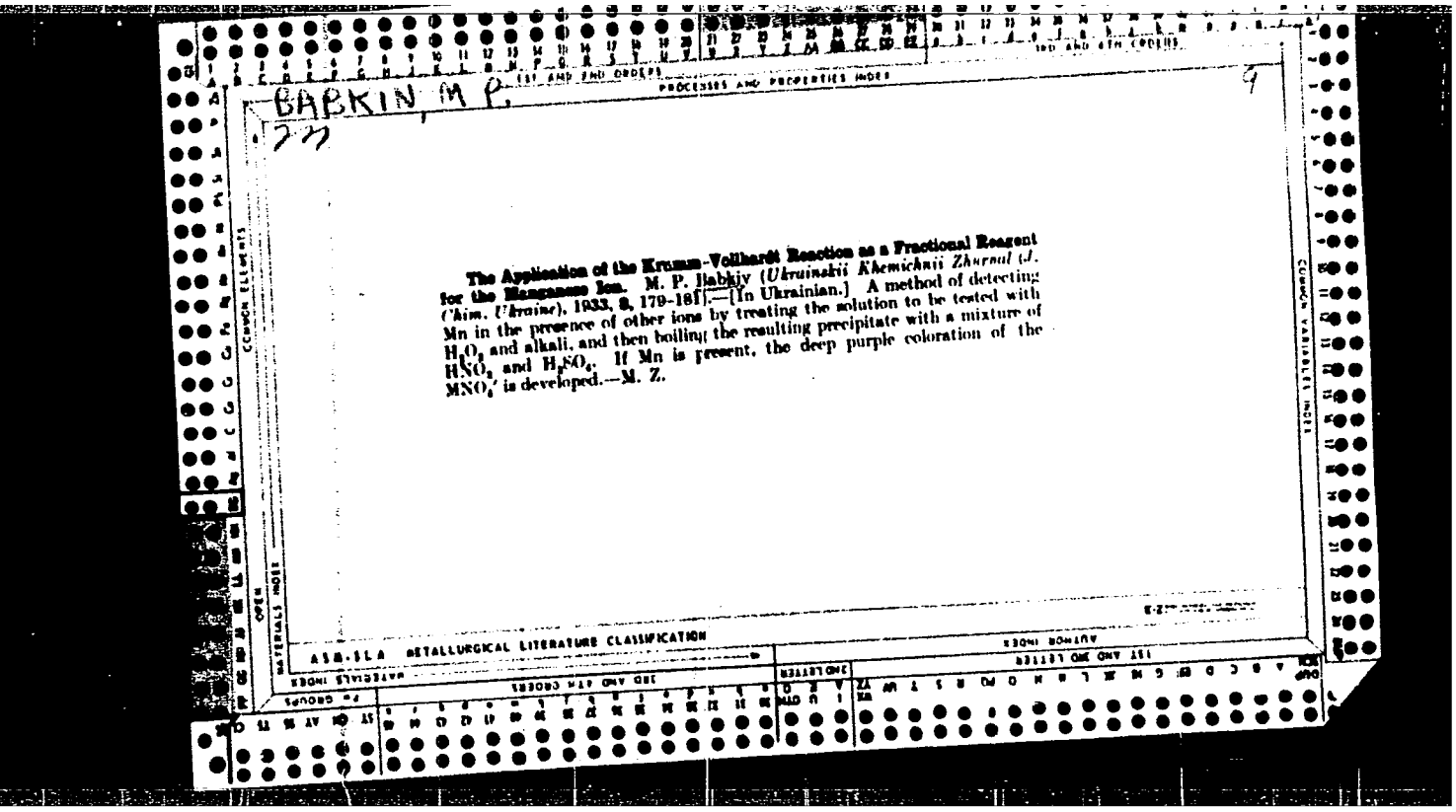
BABKIN, M.P.

BC

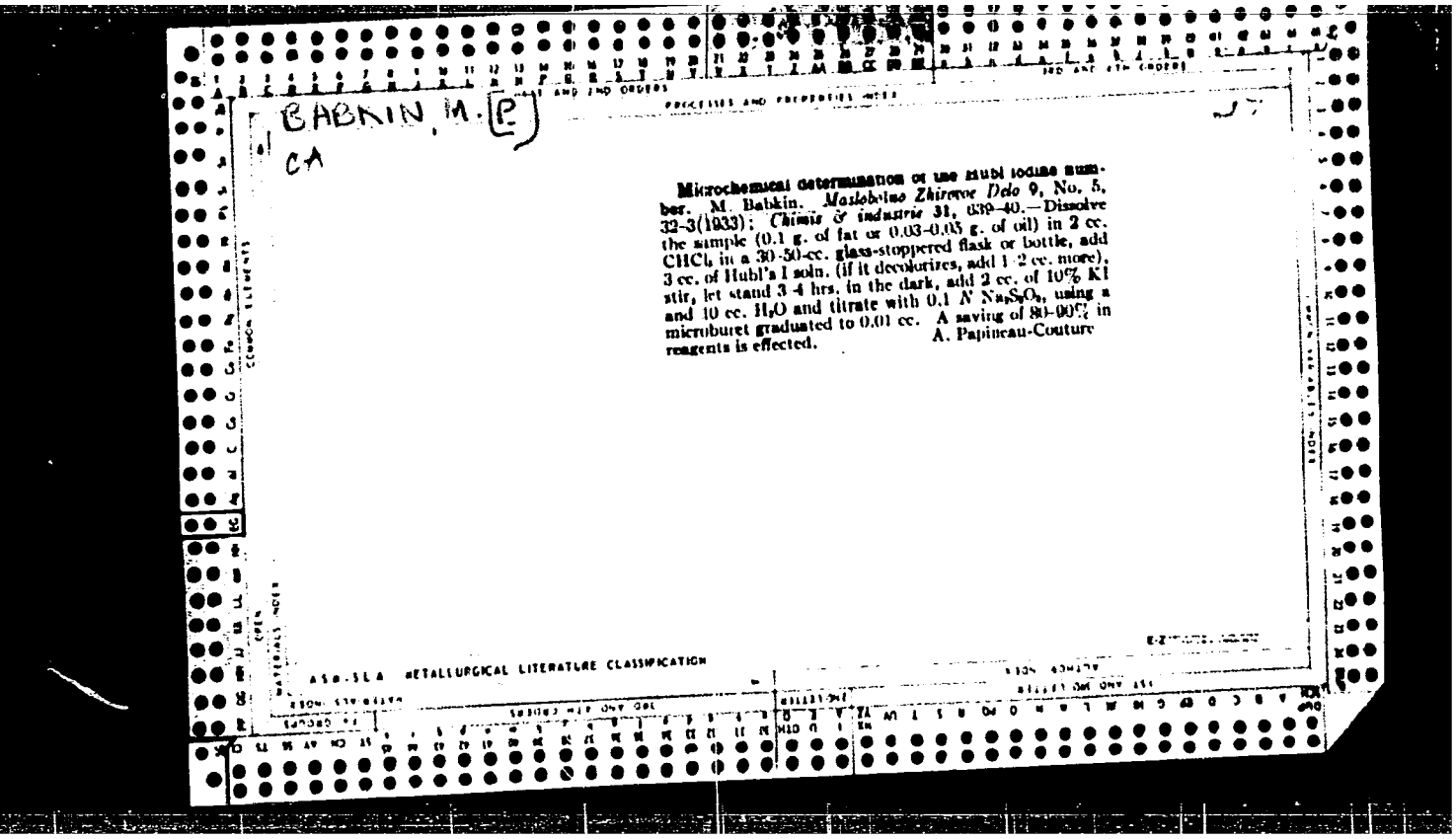
11/1

Aqueous ammonia as a reagent for chlorine and bromine in the presence of iodine. M. P. BABKIN (J. Gen. Chem. Russ., 1933, 3, 134—136).—AgCl is sol. in $N/250$-, AgBr in $N/32$-, and AgI in $N/2$-aq. NH_3; the ppt. of Ag halides is shaken with $N/64$-aq. NH_3, and the filtrate is made acid with HNO_3, when a ppt. indicates AgCl, whilst AgBr in presence of AgI is detected similarly using $N/16$-aq. NH_3. R. T.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION


BABKIN, M. P.

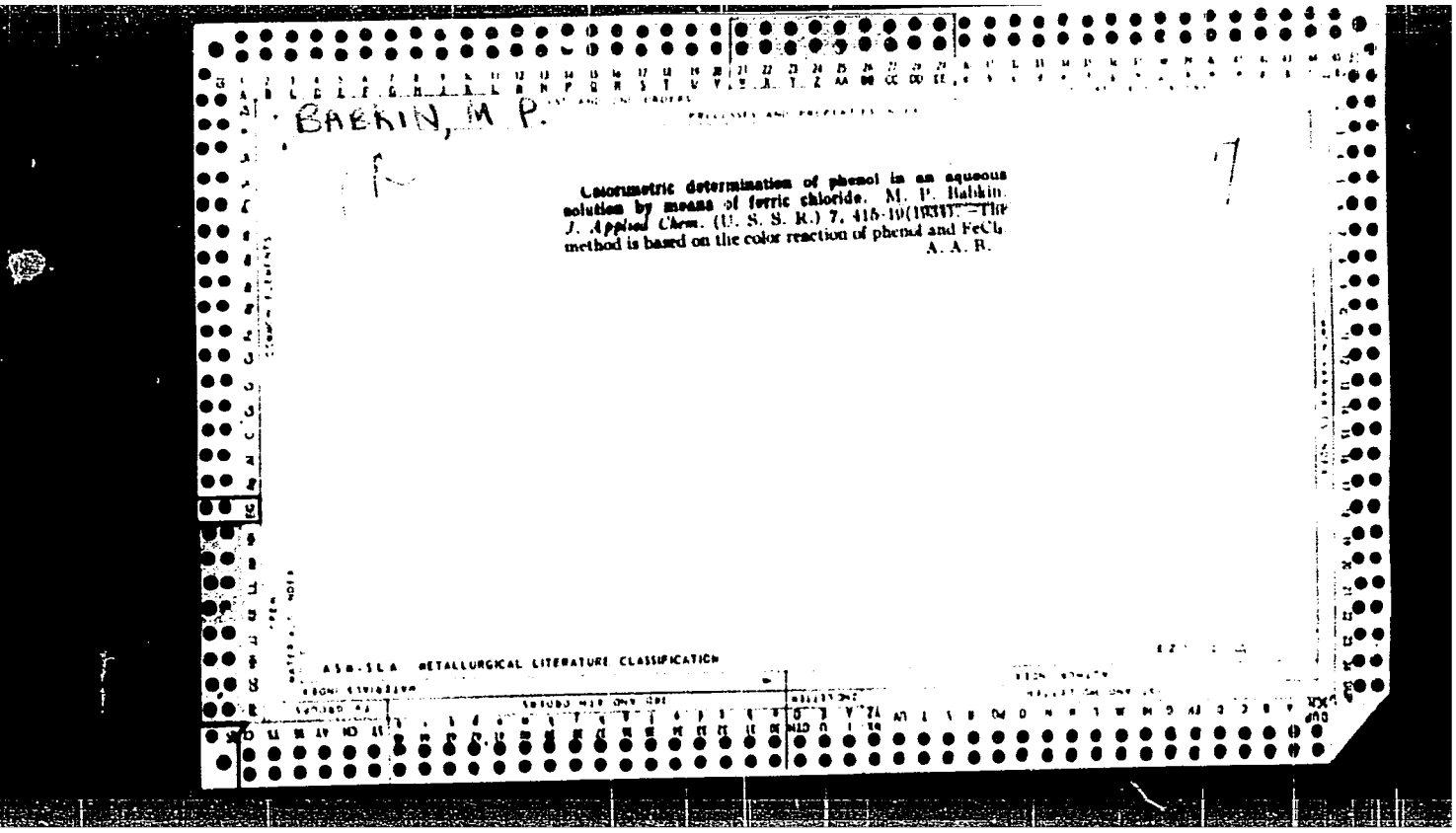
The Application of the Krumm-Vollhardt Reaction as a Fractional Reagent for the Manganese Ion. M. P. Babkiy (*Ukrainskii Khemicheskii Zhurnal* (*J. Chim. Ukraine*), 1933, **8**, 179–181).—[In Ukrainian.] A method of detecting Mn in the presence of other ions by treating the solution to be tested with H_2O_2 and alkali, and then boiling the resulting precipitate with a mixture of HNO_3 and H_2SO_4. If Mn is present, the deep purple coloration of the MnO_4' is developed.—M. Z.



BABKIN, M. P.
CA

Microchemical determination of the Hubl iodine number. M. Babkin. *Maslobeino Zhirovoe Delo* 9, No. 5, 32-3(1933); *Chimie & industrie* 31, 639-40.—Dissolve the sample (0.1 g. of fat or 0.03–0.05 g. of oil) in 2 cc. $CHCl_3$ in a 30–50-cc. glass-stoppered flask or bottle, add 3 cc. of Hubl's I soln. (if it decolorizes, add 1–2 cc. more), stir, let stand 3–4 hrs. in the dark, add 2 cc. of 10% KI and 10 cc. H_2O and titrate with 0.1 *N* $Na_2S_2O_3$, using a microburet graduated to 0.01 cc. A saving of 80–90% in reagents is effected. A. Papineau-Couture

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

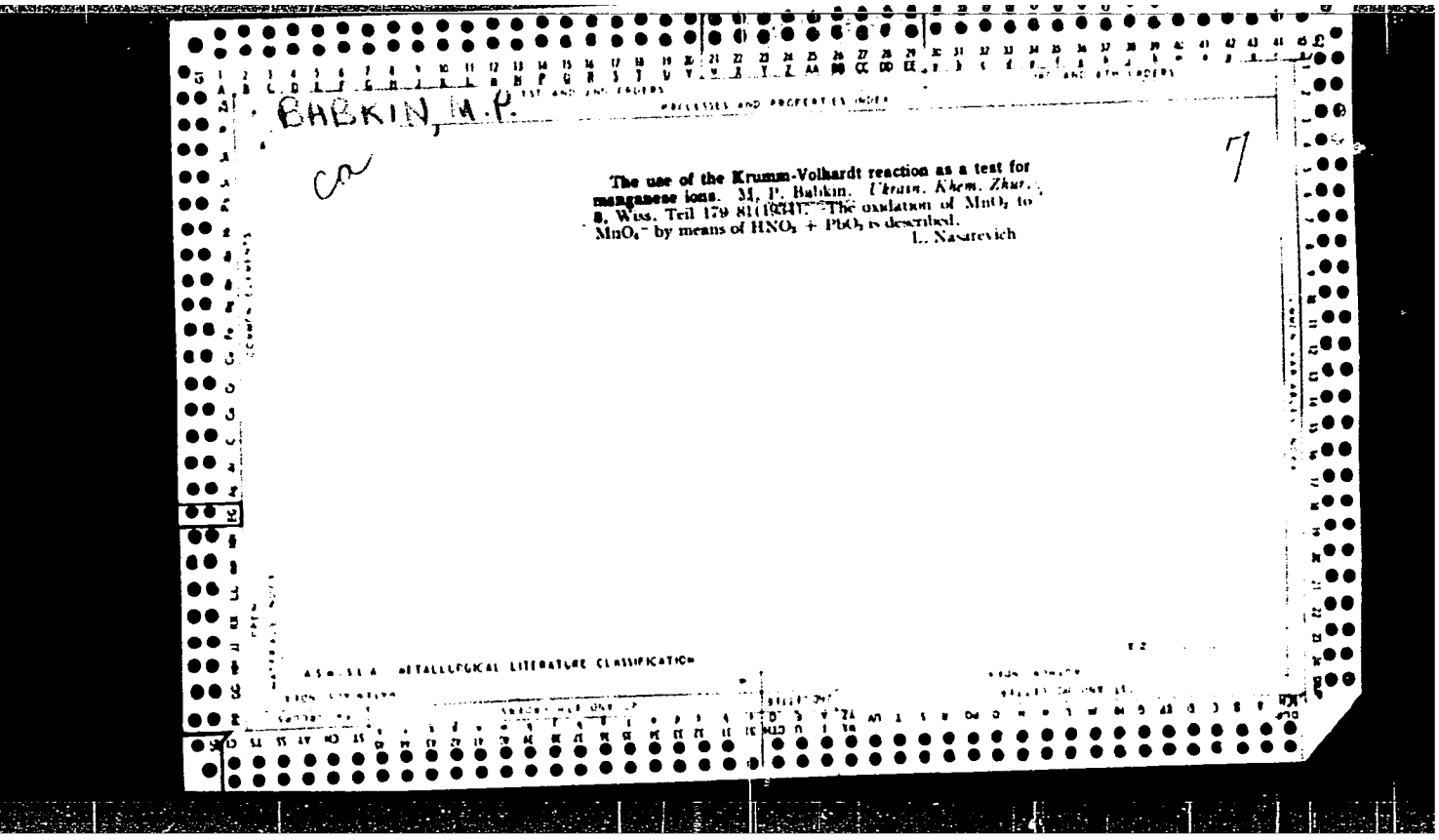


BAKIN, M. P.

Colorimetric determination of phenol in an aqueous solution by means of ferric chloride. M. P. Bakhin. *J. Applied Chem.* (U. S. S. R.) 7, 415-19(1934).—The method is based on the color reaction of phenol and $FeCl_3$

A. A. R.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

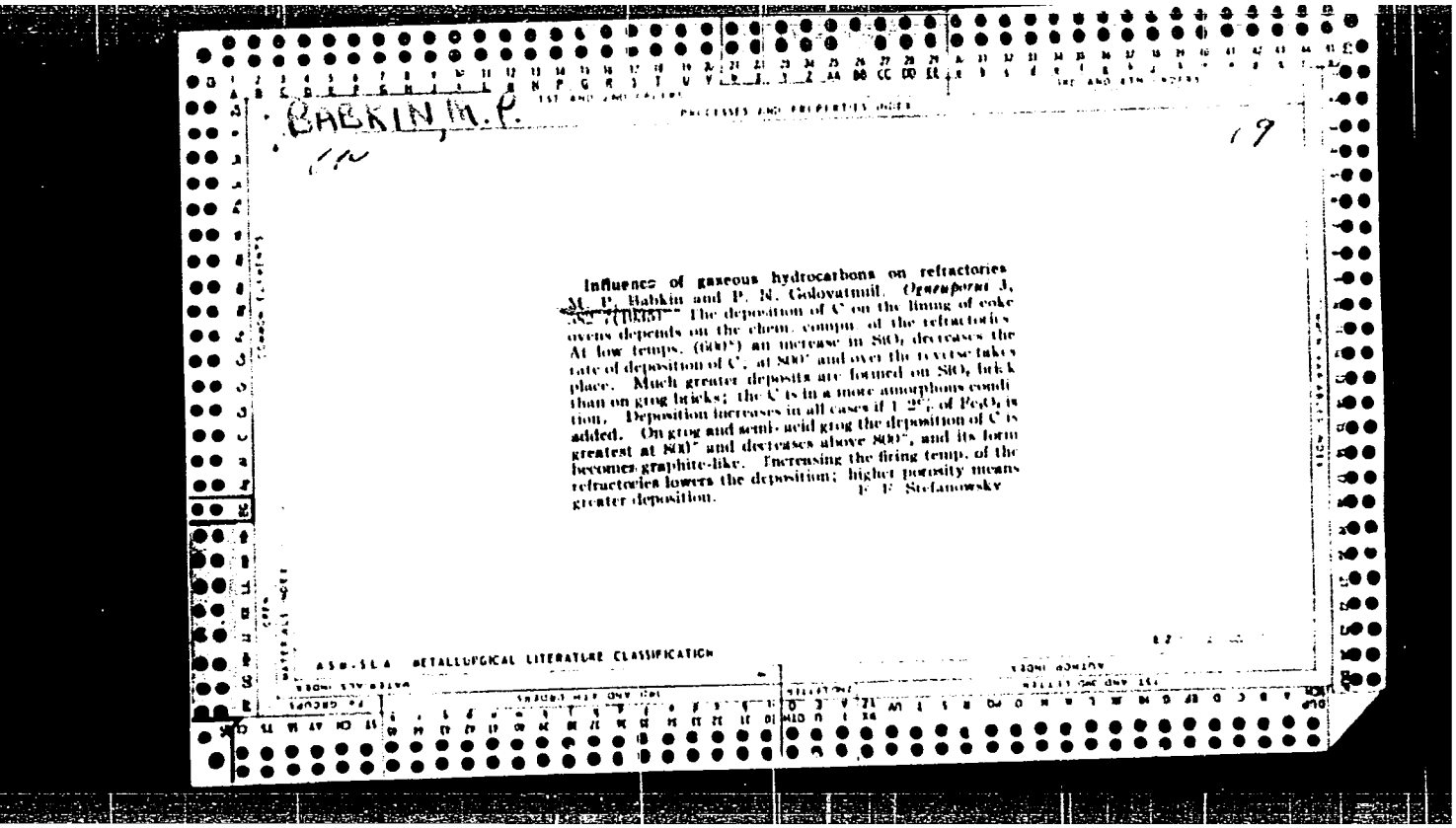


BABKIN, M.P.

7

The use of the Krumm-Volhardt reaction as a test for manganese ions. M. P. Babkin. *Ukrain. Khem. Zhur.*, 8, Wiss. Teil 179 81(1933). The oxidation of MnO_2 to MnO_4^- by means of $HNO_3 + PbO_2$ is described.
L. Nasarevich

A.S.M.-U.S.A. METALLURGICAL LITERATURE CLASSIFICATION

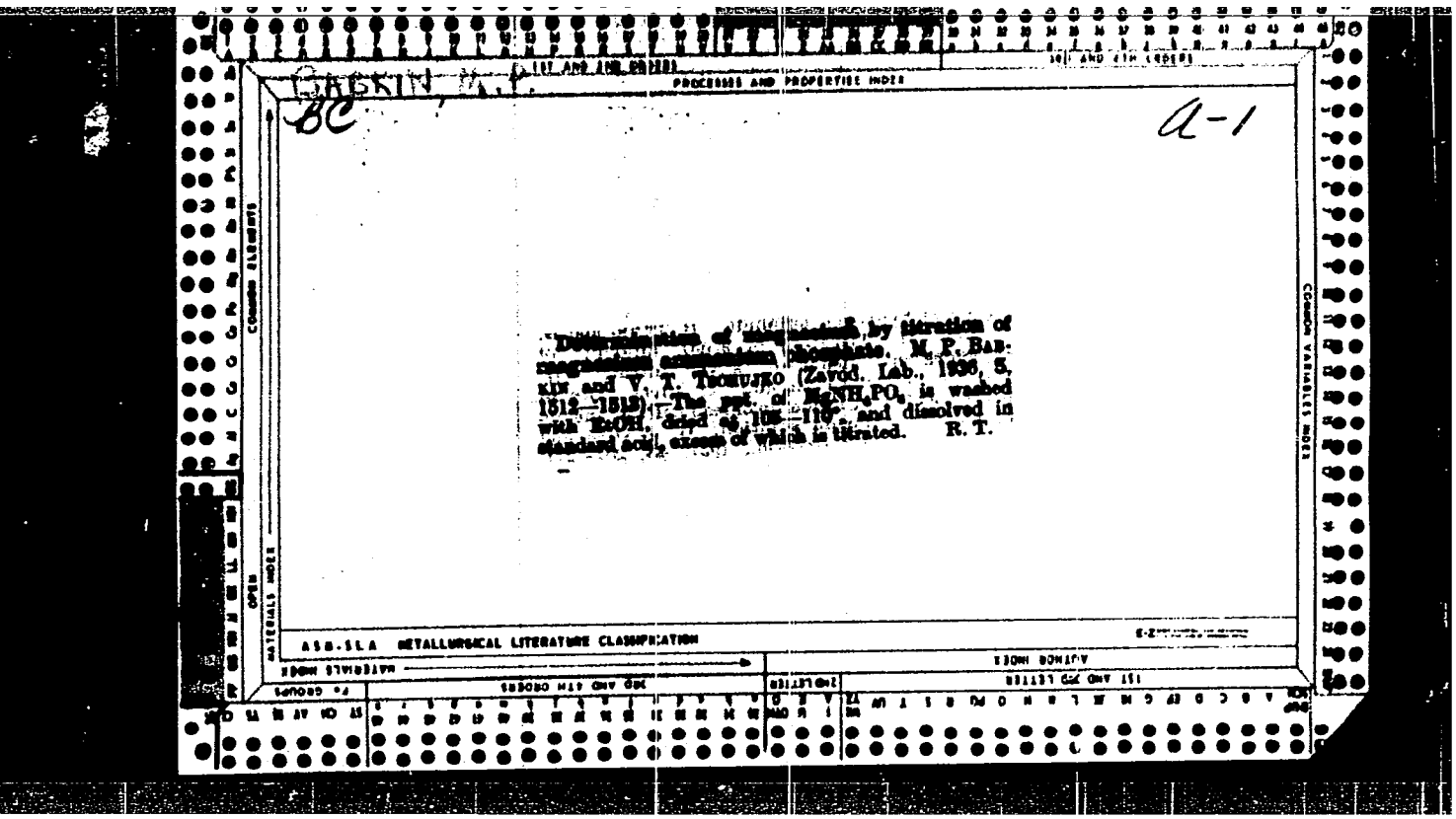


BABKIN, M. P.

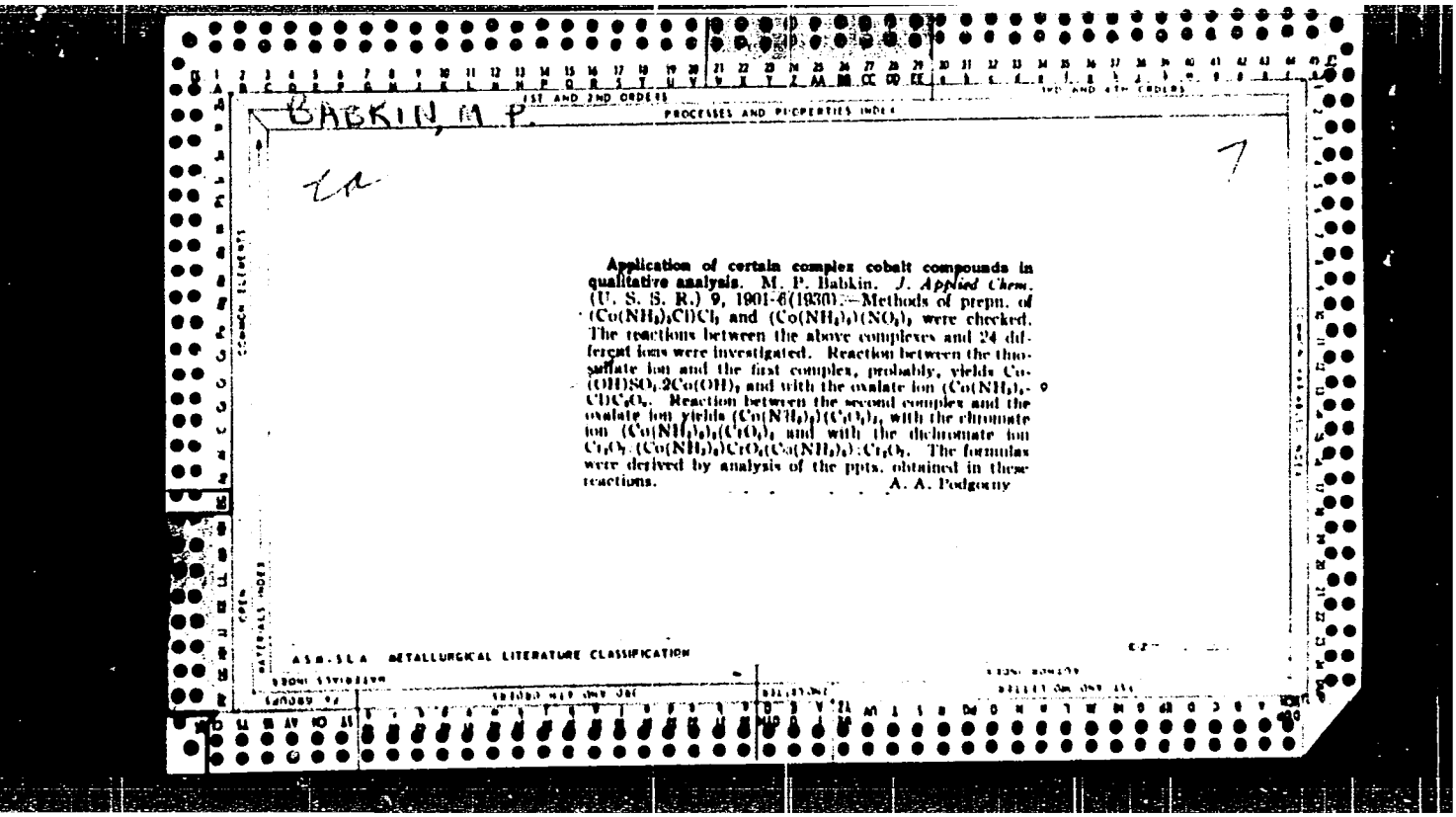
19

Influence of gaseous hydrocarbons on refractories. M. P. Babkin and P. N. Golovatmuil. *Ogneupory* 3, [illegible]. The deposition of C on the lining of coke ovens depends on the chem. compn. of the refractories. At low temps. (600°) an increase in SiO_2 decreases the rate of deposition of C; at 800° and over the reverse takes place. Much greater deposits are formed on SiO_2 brick than on grog bricks; the C is in a more amorphous condition. Deposition increases in all cases if 1.2% of Fe_2O_3 is added. On grog and semi-acid grog the deposition of C is greatest at 800° and decreases above 800°, and its form becomes graphite-like. Increasing the firing temp. of the refractories lowers the deposition; higher porosity means greater deposition. J. F. Stefanowsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



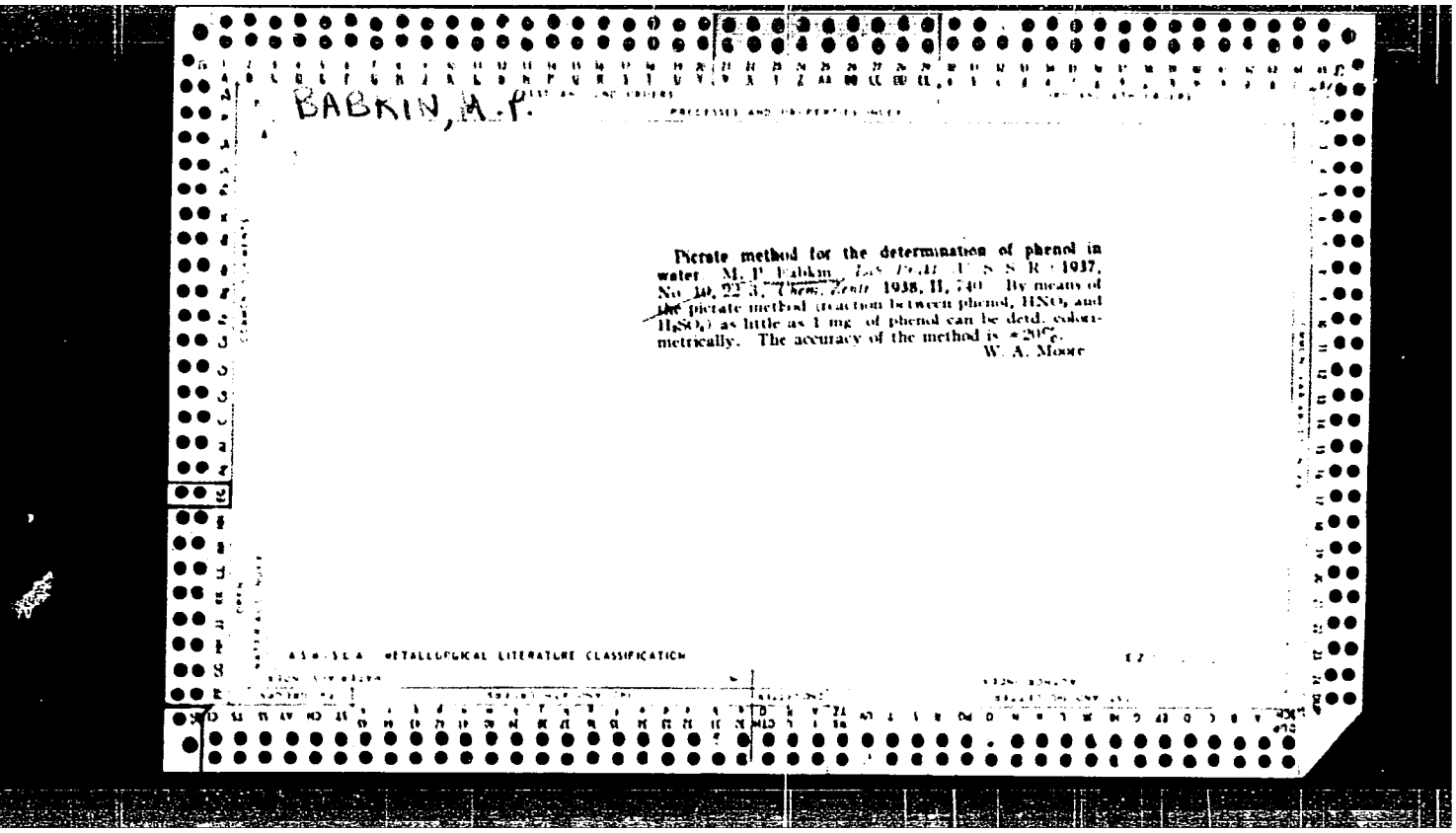
Determination of magnesium, by titration of magnesium ammonium phosphate. M. P. Babkin and V. T. Tsoiuiko (Zavod. Lab., 1936, 5, 1512—1515).—The ppt. of $MgNH_4PO_4$ is washed with EtOH, dried at 105—110°, and dissolved in standard acid, excess of which is titrated. R. T.



BABKIN, M. P.

7

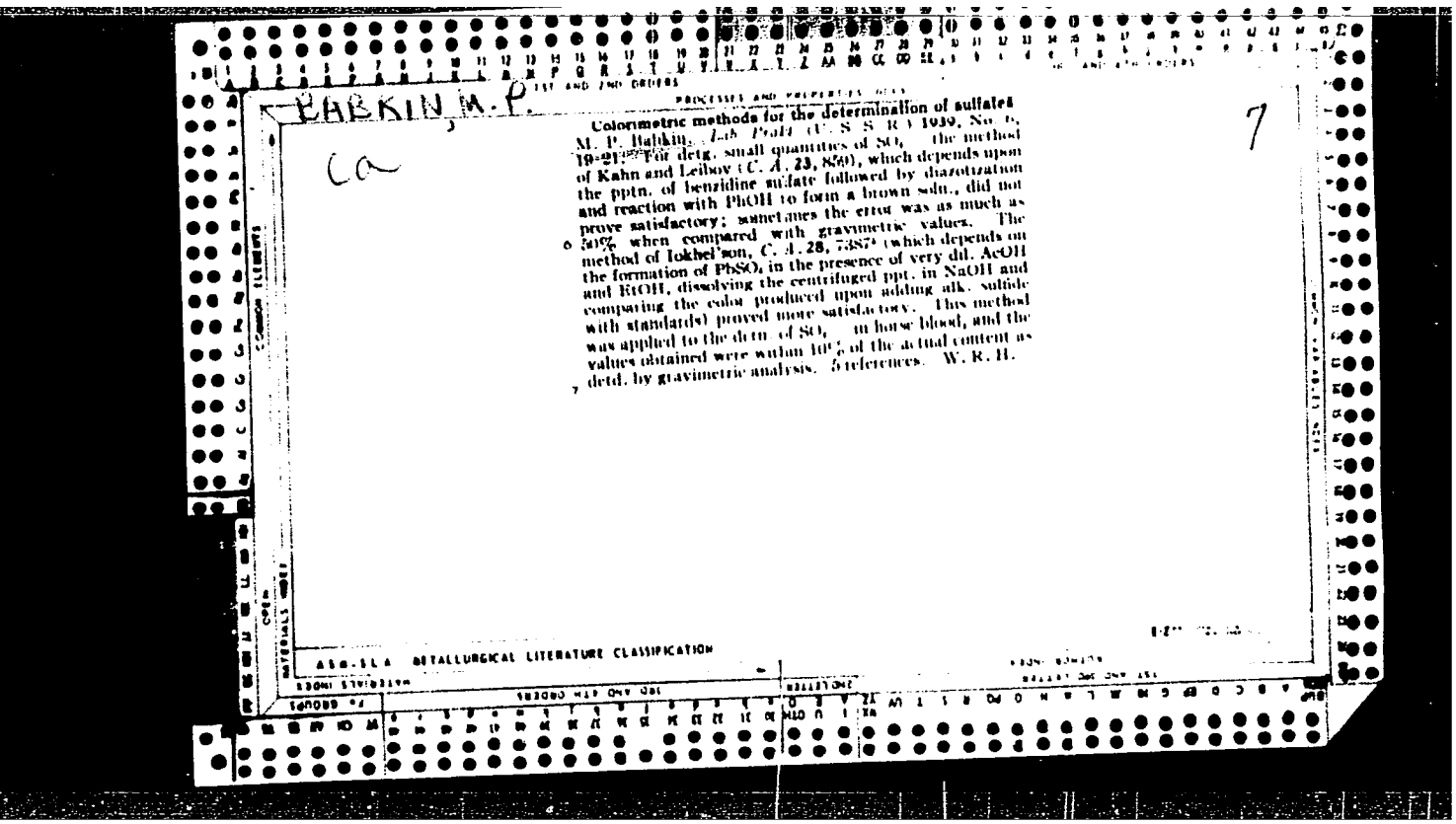
Application of certain complex cobalt compounds in qualitative analysis. M. P. Babkin. *J. Applied Chem.* (U. S. S. R.) 9, 1901-6(1930).—Methods of prepn. of $(Co(NH_3)_5Cl)Cl_2$ and $(Co(NH_3)_6)(NO_3)_3$ were checked. The reactions between the above complexes and 24 different ions were investigated. Reaction between the thiosulfate ion and the first complex, probably, yields $Co(OH)SO_3.2Co(OH)_3$ and with the oxalate ion $(Co(NH_3)_5ClC_2O_4$. Reaction between the second complex and the oxalate ion yields $(Co(NH_3)_6)(C_2O_4)_3$ with the chromate ion $(Co(NH_3)_6)_2(CrO_4)_3$ and with the dichromate ion Cr_2O_7: $(Co(NH_3)_6)CrO_4(Co(NH_3)_6):Cr_2O_7$. The formulas were derived by analysis of the ppts. obtained in these reactions. A. A. Podgorny



BABKIN, A.P.

Picrate method for the determination of phenol in water. M. P. Babkin. *Zavodskaya Lab.* [*Factory Lab.*] U.S.S.R. 1937, No. 10, 22–3; *Chem. Zentr.* 1938, II, 740. By means of the picrate method (reaction between phenol, HNO_3 and H_2SO_4) as little as 1 mg. of phenol can be detd. colorimetrically. The accuracy of the method is ±20%.
W. A. Moore

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION



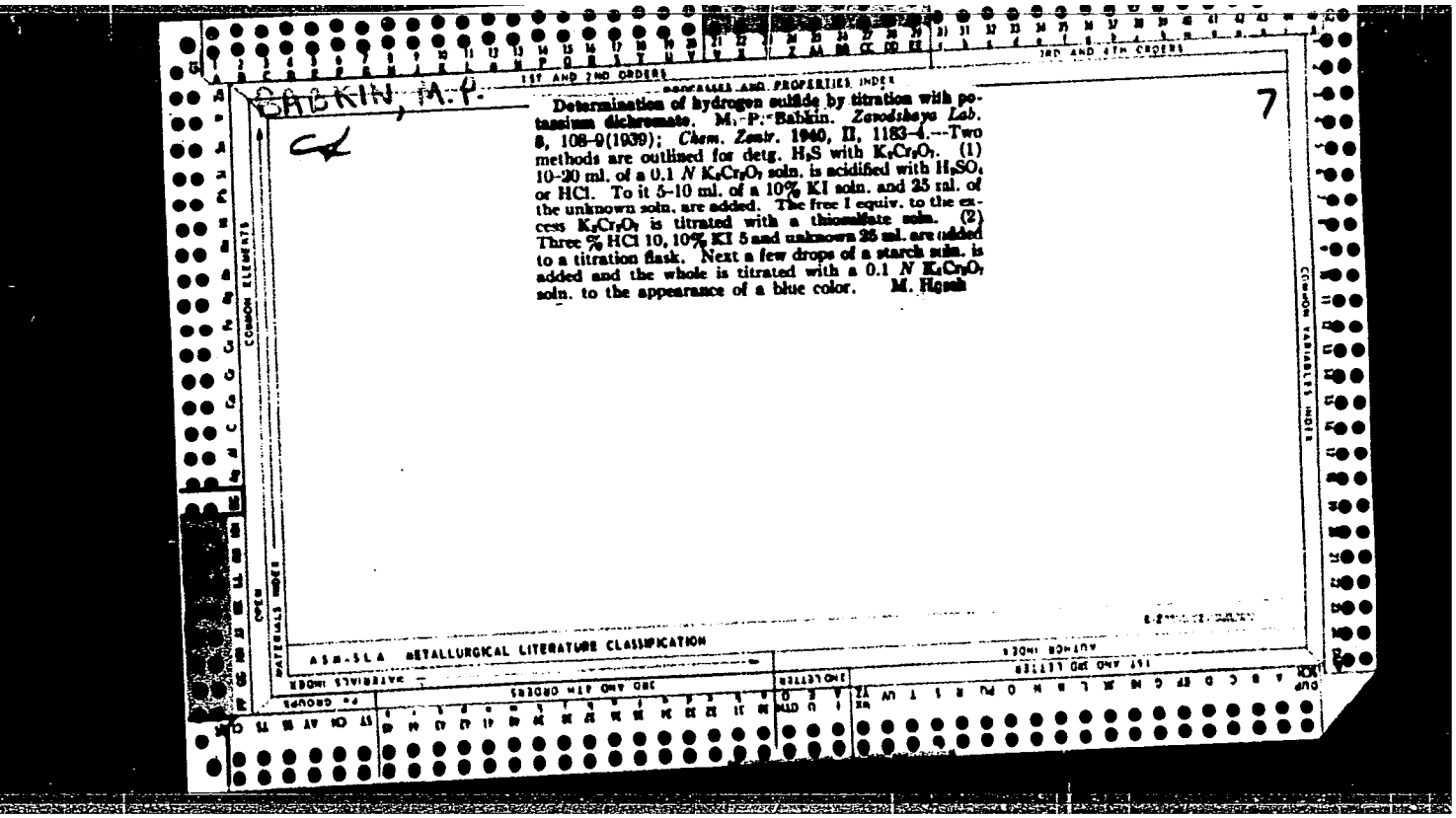
LABKIN, M. P.

CA

7

Colorimetric methods for the determination of sulfates. M. P. Labkin. *Lab. Prakt.* (U. S. S. R.) 1939, No. 9, 19–21.—For detg. small quantities of SO_4, the method of Kahn and Leibov (*C. A.* **23**, 856), which depends upon the pptn. of benzidine sulfate followed by diazotization and reaction with PhOH to form a brown soln., did not prove satisfactory; sometimes the error was as much as 50% when compared with gravimetric values. The method of Iokhel'son, *C. A.* **28**, 7387[9] (which depends on the formation of $PbSO_4$ in the presence of very dil. AcOH and EtOH, dissolving the centrifuged ppt. in NaOH and comparing the color produced upon adding alk. sulfide with standards) proved more satisfactory. This method was applied to the detn. of SO_4 in horse blood, and the values obtained were within 10% of the actual content as detd. by gravimetric analysis. 5 references. W. R. H.

A50-51A METALLURGICAL LITERATURE CLASSIFICATION

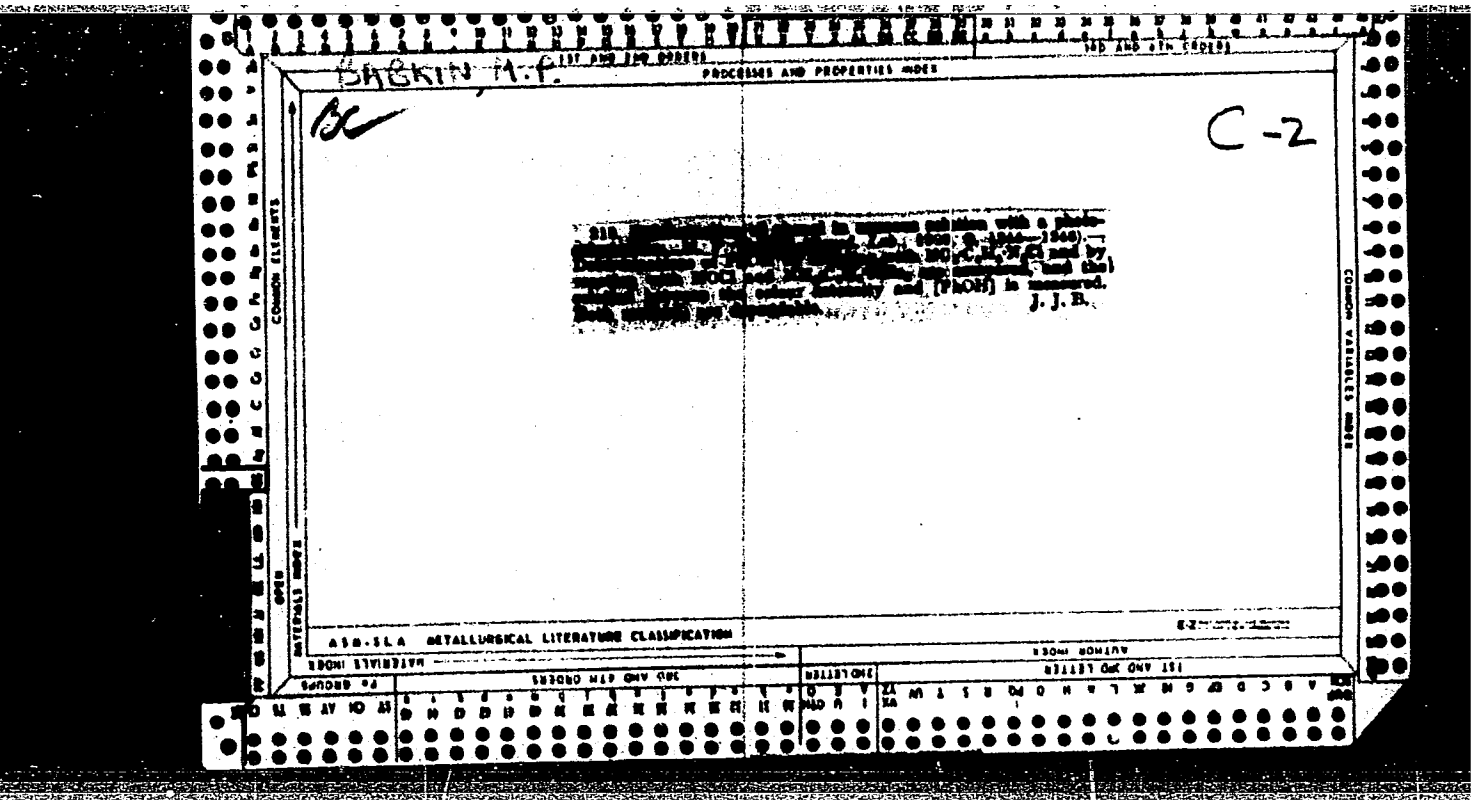


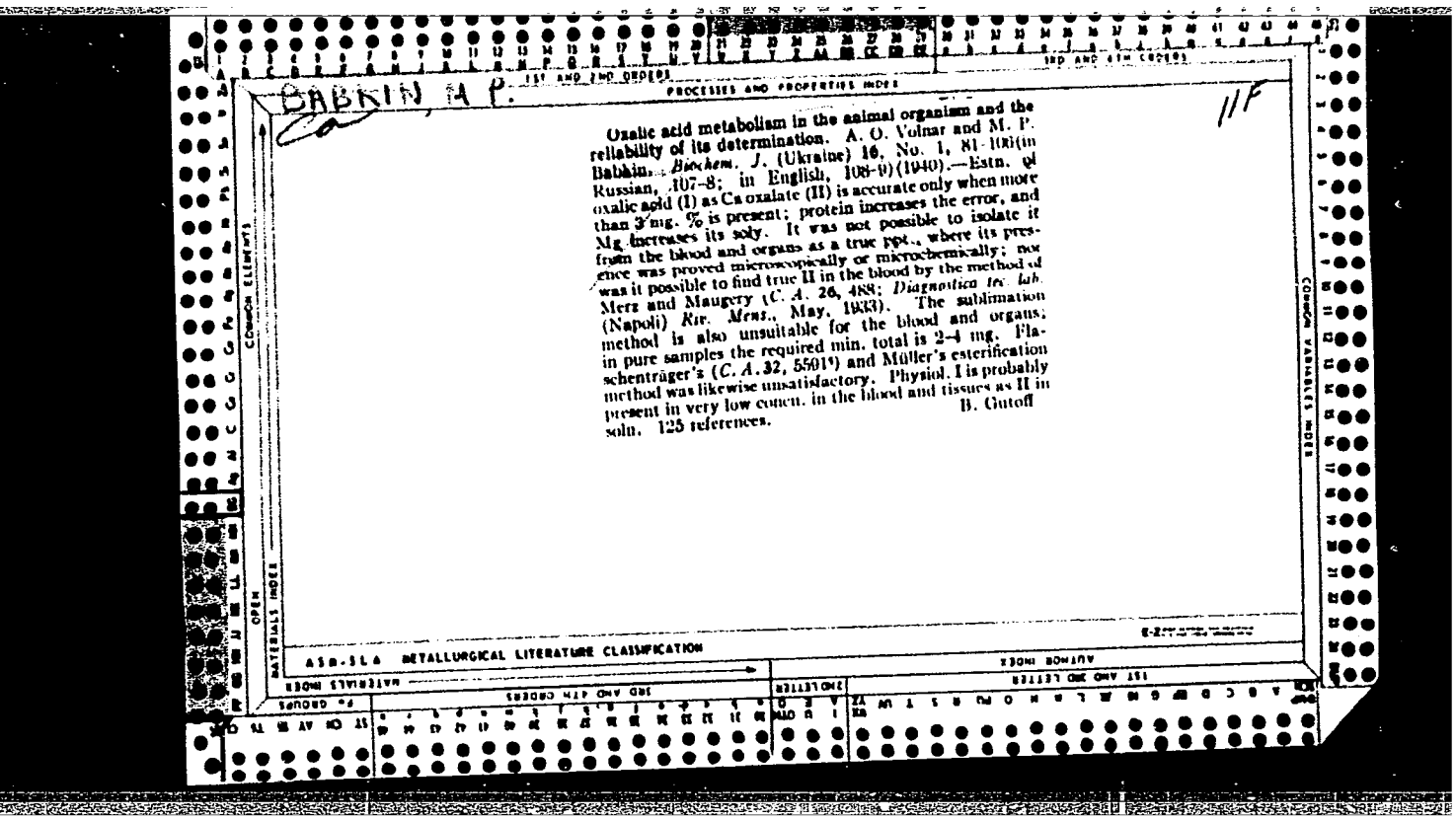
BALKIN, M.P.

Cl

7

Determination of hydrogen sulfide by titration with potassium dichromate. M. P. Balkin. *Zavodskaya Lab.* 8, 108–9(1939); *Chem. Zentr.* 1940, II, 1183–4.—Two methods are outlined for detg. H_2S with $K_2Cr_2O_7$. (1) 10–20 ml. of a 0.1 *N* $K_2Cr_2O_7$ soln. is acidified with H_2SO_4 or HCl. To it 5–10 ml. of a 10% KI soln. and 25 ml. of the unknown soln. are added. The free I equiv. to the excess $K_2Cr_2O_7$ is titrated with a thiosulfate soln. (2) Three % HCl 10, 10% KI 5 and unknown 25 ml. are added to a titration flask. Next a few drops of a starch soln. is added and the whole is titrated with a 0.1 *N* $K_2Cr_2O_7$ soln. to the appearance of a blue color. M. Hirsh



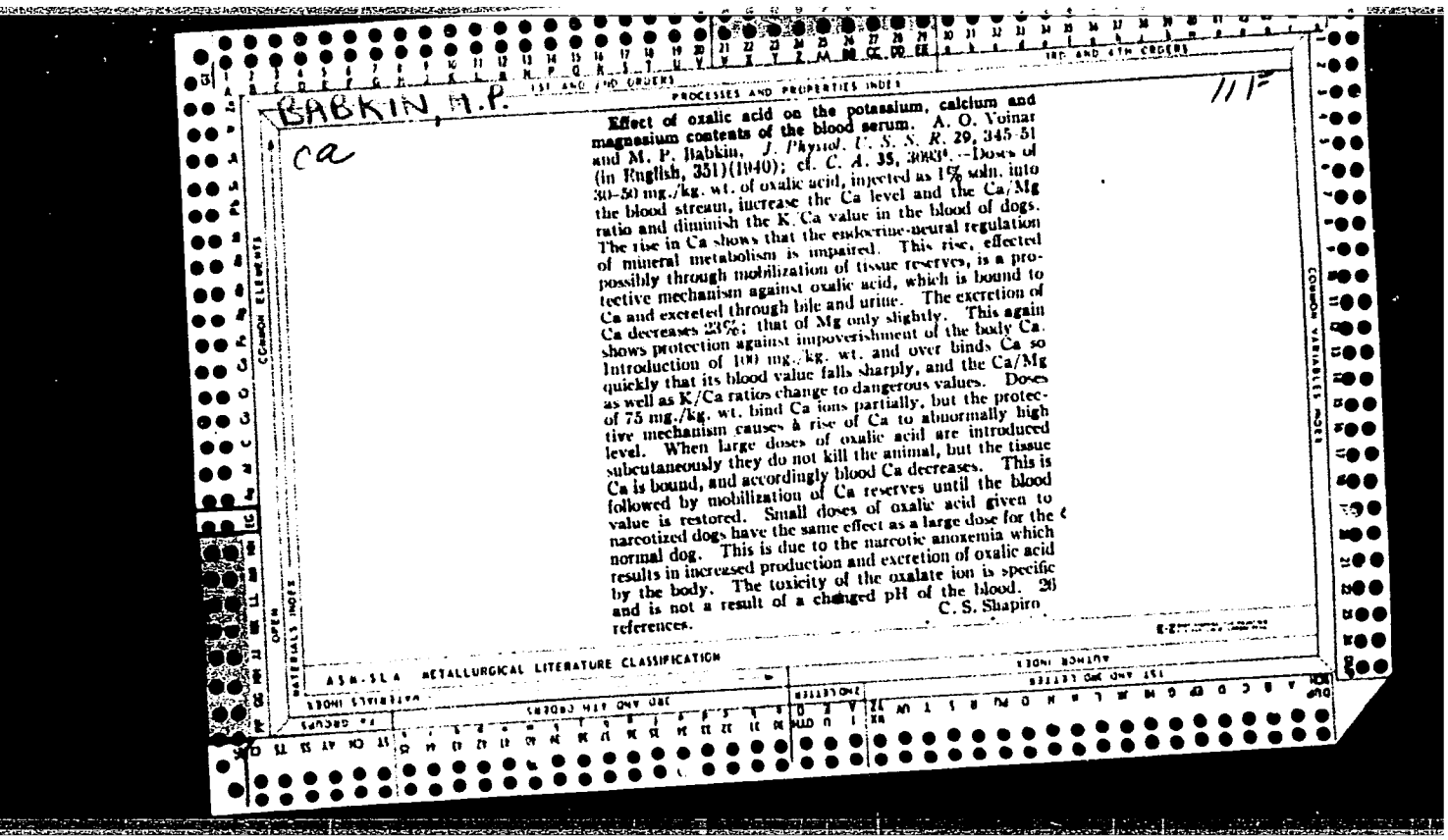


BABKIN, B. P.

11F

Oxalic acid metabolism in the animal organism and the reliability of its determination. A. O. Volnar and M. P. Babkin. *Biochem. J.* (Ukraine) 16, No. 1, 81-100(in Russian, 107-8; in English, 108-9)(1940).—Estn. of oxalic acid (I) as Ca oxalate (II) is accurate only when more than 3 mg. % is present; protein increases the error, and Mg increases its soly. It was not possible to isolate it from the blood and organs as a true ppt., where its presence was proved microscopically or microchemically; nor was it possible to find true II in the blood by the method of Merz and Maugery (*C. A.* 26, 488; *Diagnostica lab.* (Napoli) *Ric. Mens.*, May, 1933). The sublimation method is also unsuitable for the blood and organs; in pure samples the required min. total is 2–4 mg. Flaschenträger's (*C. A.* 32, 5501⁹) and Müller's esterification method was likewise unsatisfactory. Physiol. I is probably present in very low concn. in the blood and tissues as II in soln. 125 references.

B. Gutoff



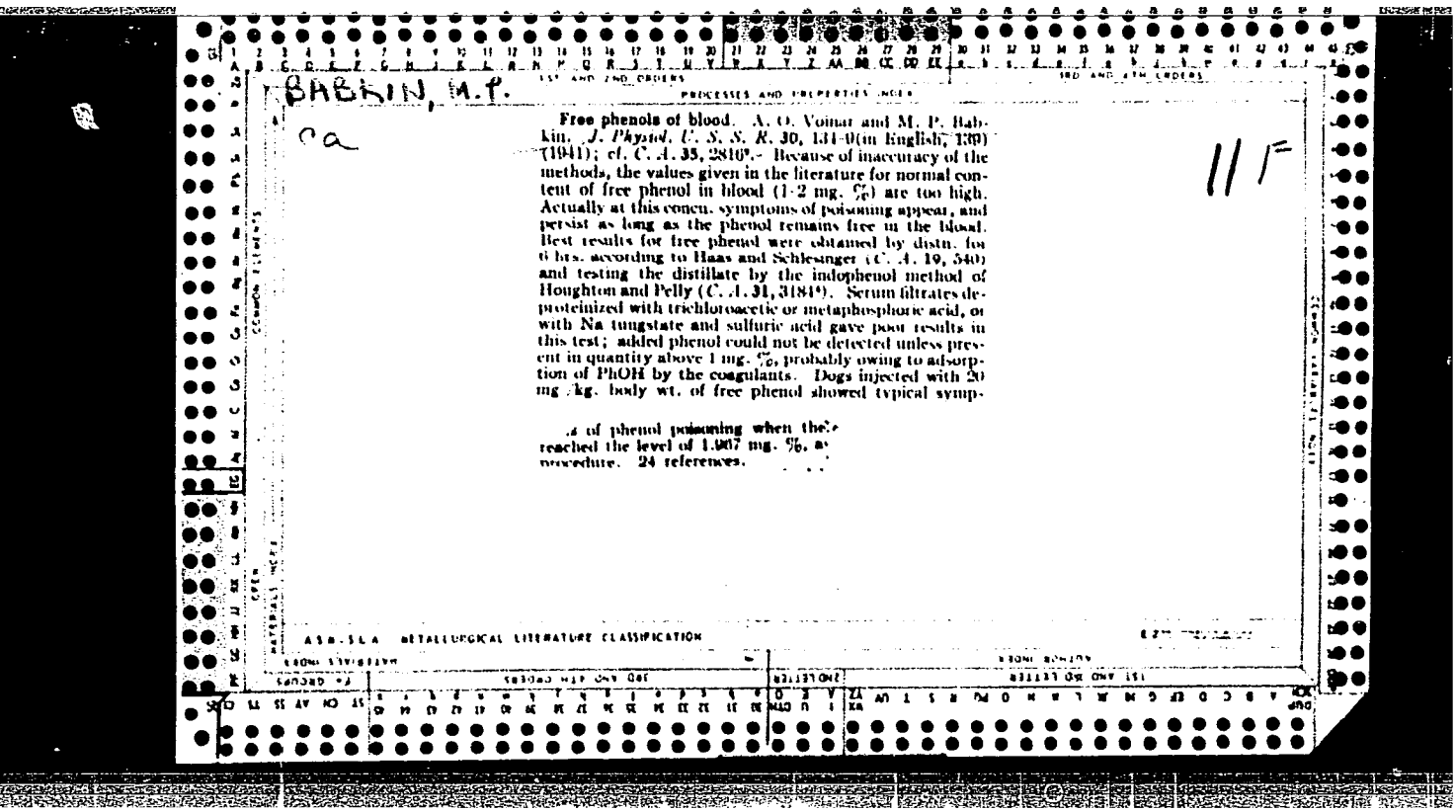
BABKIN, B.P.

ca

111

Effect of oxalic acid on the potassium, calcium and magnesium contents of the blood serum. A. O. Voinar and M. P. Babkin, *J. Physiol. U. S. S. R.* 29, 345-51 (in English, 351)(1940); cf. *C. A.* 35, 3000⁹.—Doses of 30–50 mg./kg. wt. of oxalic acid, injected as 1% soln. into the blood stream, increase the Ca level and the Ca/Mg ratio and diminish the K/Ca value in the blood of dogs. The rise in Ca shows that the endocrine-neural regulation of mineral metabolism is impaired. This rise, effected possibly through mobilization of tissue reserves, is a protective mechanism against oxalic acid, which is bound to Ca and excreted through bile and urine. The excretion of Ca decreases 25%; that of Mg only slightly. This again shows protection against impoverishment of the body Ca. Introduction of 100 mg./kg. wt. and over binds Ca so quickly that its blood value falls sharply, and the Ca/Mg as well as K/Ca ratios change to dangerous values. Doses of 75 mg./kg. wt. bind Ca ions partially, but the protective mechanism causes a rise of Ca to abnormally high level. When large doses of oxalic acid are introduced subcutaneously they do not kill the animal, but the tissue Ca is bound, and accordingly blood Ca decreases. This is followed by mobilization of Ca reserves until the blood value is restored. Small doses of oxalic acid given to narcotized dogs have the same effect as a large dose for the normal dog. This is due to the narcotic anoxemia which results in increased production and excretion of oxalic acid by the body. The toxicity of the oxalate ion is specific and is not a result of a changed pH of the blood. 26 references.

C. S. Shapiro



BABKIN, M.P.

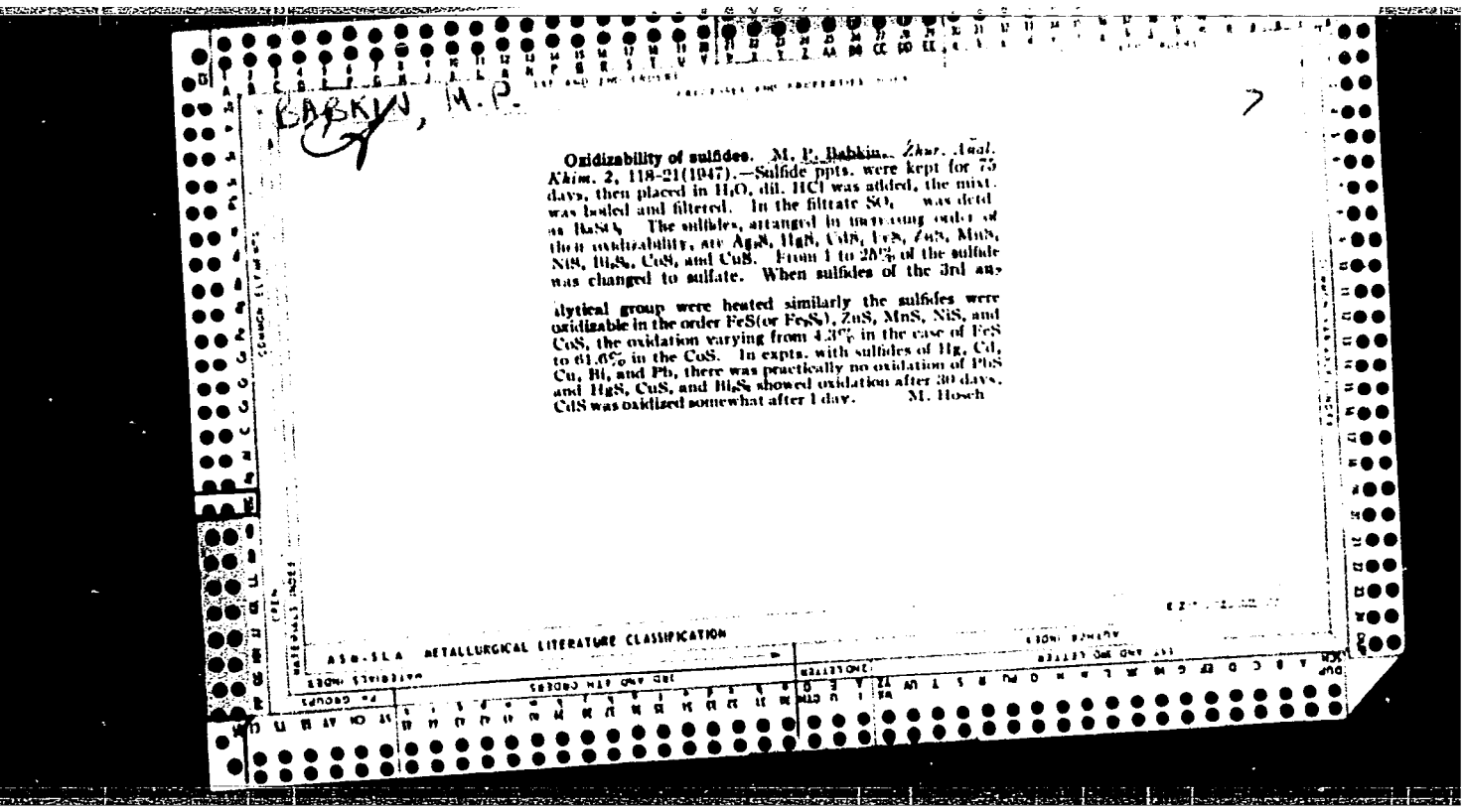
Ca

Free phenols of blood. A. O. Voinar and M. P. Babkin. *J. Physiol. U. S. S. R.* 30, 131-9(in English, 139) (1941); cf. *C. A.* 35, 2810⁹.- Because of inaccuracy of the methods, the values given in the literature for normal content of free phenol in blood (1-2 mg. %) are too high. Actually at this concn. symptoms of poisoning appear, and persist as long as the phenol remains free in the blood. Best results for free phenol were obtained by distn. for 6 hrs. according to Haas and Schlesinger (*C. A.* 19, 540) and testing the distillate by the indophenol method of Houghton and Pelly (*C. A.* 31, 3184⁹). Serum filtrates deproteinized with trichloroacetic or metaphosphoric acid, or with Na tungstate and sulfuric acid gave poor results in this test; added phenol could not be detected unless present in quantity above 1 mg. %, probably owing to adsorption of PhOH by the coagulants. Dogs injected with 20 mg./kg. body wt. of free phenol showed typical symp-

.s of phenol poisoning when the
reached the level of 1.007 mg. %, a
procedure. 24 references.

111

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION



BABKIN, M.P.

Oxidizability of sulfides. M. P. Babkin. *Zhur. Anal. Khim.* 2, 118-21(1947).—Sulfide ppts. were kept for 75 days, then placed in H_2O, dil. HCl was added, the mixt. was boiled and filtered. In the filtrate SO_4 was detd. as $BaSO_4$. The sulfides, arranged in increasing order of their oxidizability, are Ag_2S, HgS, CdS, FeS, ZnS, MnS, NiS, Bi_2S_3, CoS, and CuS. From 1 to 20% of the sulfide was changed to sulfate. When sulfides of the 3rd analytical group were heated similarly the sulfides were oxidizable in the order FeS(or Fe_2S_3), ZnS, MnS, NiS, and CoS, the oxidation varying from 4.3% in the case of FeS to 61.6% in the CoS. In expts. with sulfides of Hg, Cd, Cu, Bi, and Pb, there was practically no oxidation of PbS and HgS, CuS, and Bi_2S_3 showed oxidation after 30 days. CdS was oxidized somewhat after 1 day. M. Hosch

A58-SLA METALLURGICAL LITERATURE CLASSIFICATION

BABKIN, N P.
CA

7

Detection of alloying elements in steel by drop methods. M. P. Babkin. *Zavodskaya Lab.* 15, 1130–1(1949).—The detection of Cr by the method of Kul'berg (*C.A.* 40, 5663⁴) is most satisfactory. V and Mo are also best detected by the Kul'berg procedure, but W is best detected according to Evans and Higgs (*C.A.* 39, 2265⁴). Directions are given for detecting Ni with dimethylglyoxime.
G. M. Kosolapoff

BABKIN, M.P.

4

2100. Detection of cobalt and nickel in a single sample by dissolution of their sulphides. M. P. Babkin. *Soobshch. Nauch. Rabotakh Gornob. Khim. Obshchestva*, 1954, (2), 46–47; *Ref. Zhur., Khim.*, 1955, Abstr. No. 20,468.—Various vol. of 0·1 *N* $NiSO_4$ and $Co(NO_3)_2$ in centrifuge tubes were mixed with $(NH_4)_2S$ soln., the ppt. were centrifuged and washed with water. The washed ppt. were treated with 2 to 3 ml of 20 per cent. KNO_2 soln. and 1 to 2 ml of 2 *N* acetic acid, and heated to decompose the black ppt. Cobalt gave a yellow cryst. ppt. Nickel was detected in the soln. by means of dimethylglyoxime. With a Co to Ni ratio of 1:4, 0·4 mg of Co can be detected, and with a Co to Ni ratio of 50:1, 0·04 mg of Ni can be detected.

G. S. SMITH

BABKIN M.P.

3

2082. Detection of bivalent manganese by oxidation in alkaline medium. M. P. Babkin. *Trudy Komissii Anal. Khim. Akad. Nauk SSSR*, 1954, 5 (8), 130–140; *Ref. Zhur., Khim.*, 1955, Abstr. No. 20,403.—In the test for Mn^{II} by oxidation in alkaline soln. with bromine water or persulphate there is no interference from NH_4^+, K^+, Na^+, Mg^{++}, Ca^{++}, Sr^{++}, Ba^{++}, Al^{+++}, Fe^{III}, Fe^{II}, Zn^{++}, Co^{++}, Ni^{++}, Cu^{++}, Cd^{++}, Bi^{+++}, Hg^{II}, Hg^{I}, Pb^{++}, Sb^{+++} and Ag^+ in concn. of 100 mg per ml. In the presence of Cl^-, which interferes, several drops of the soln. are treated with NaOH soln. and 1 or 2 drops of 3 per cent. H_2O_2 soln. and boiled. The ppt. is filtered off and washed, and part of the ppt. in a test-tube is boiled with NaOH and bromine water or $(NH_4)_2S_2O_8$. After the ppt. has settled, the colour of the soln. is observed. The min. amount detectable is 0·5 μg of Mn per ml. G. S. SMITH

chem

1

bm

BABKIN, M. P.

USSR/ Chemistry - Analytical chemistry

Card 1/1 Pub. 116 - 17/25

Authors : Babkin, M. P.; Nozhenko, L. N.; and Shevchenko, E. I.

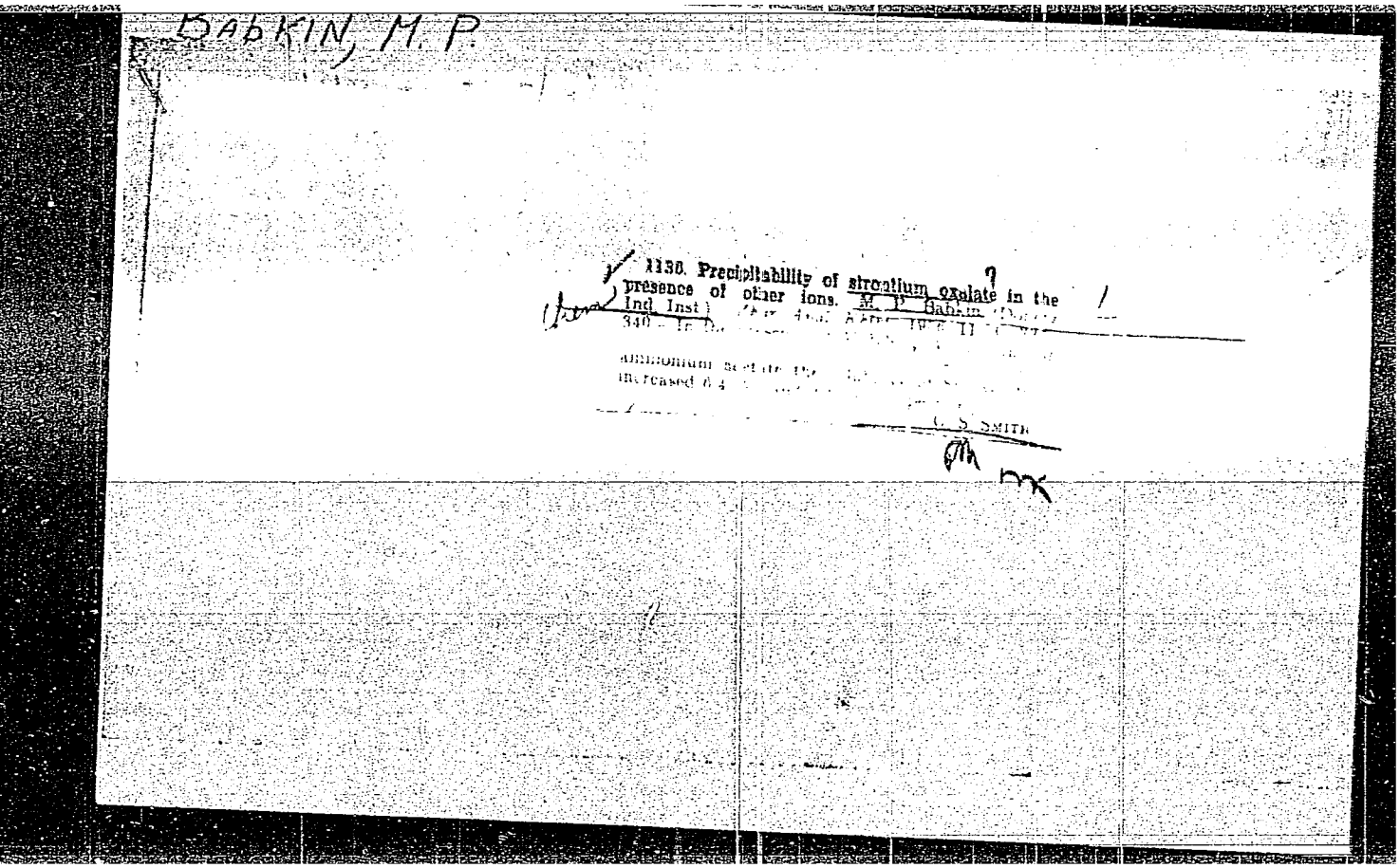
Title : The precipitability of CdC_2O_4 in the presence of analogous and foreign ions

Periodical : Ukr. khim. zhur. 21/1, 93-96, 1955

Abstract : Experiments were conducted to determine the type of cadmium oxalate precipitates with respect to the effect of analogous ions and the effect of foreign ions on the precipitability of CdC_2O_4. Results showed that CdC_2O_4 belongs to the type of precipitates the solubility of which, in the presence of cations or anions, decreases first and then increases as result of the complex formation reaction. The reducing effect of foreign ions (K^+ and Cl^-) on the precipitability of CdC_2O_4 from solutions with equivalent Cd^{2+} and $C_2O_4^{2-}$ ions was extablished. One USSR reference (1952). Tables.

Institution : The Donets Industrial Institute, Faculty of Analytical Chemistry

Submitted : December 16, 1953



BABKIN, M. P.

1130. Precipitability of strontium oxalate in the presence of other ions. M. P. Babkin

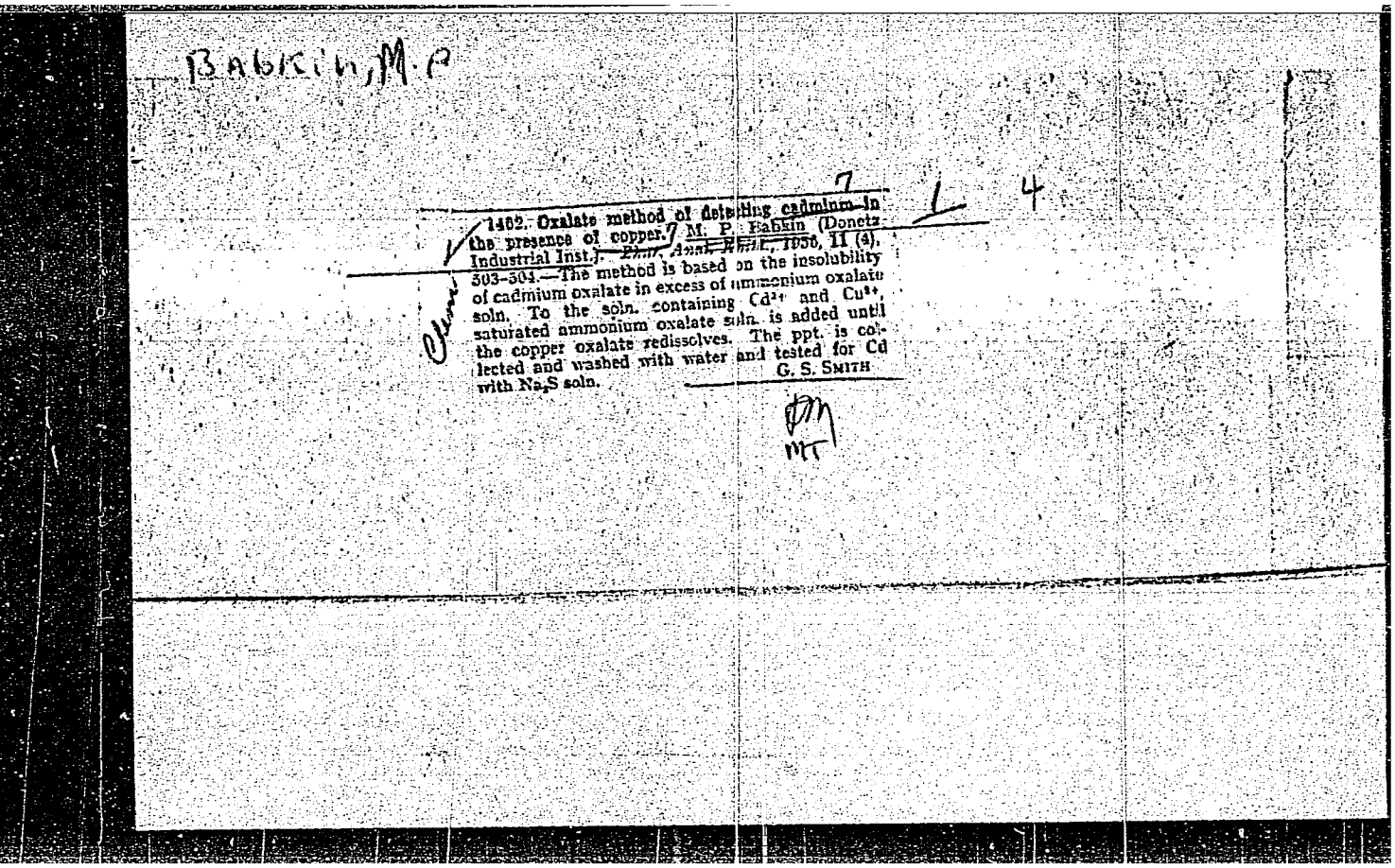
Ind. Inst.

340 –

Ammonium

Increased

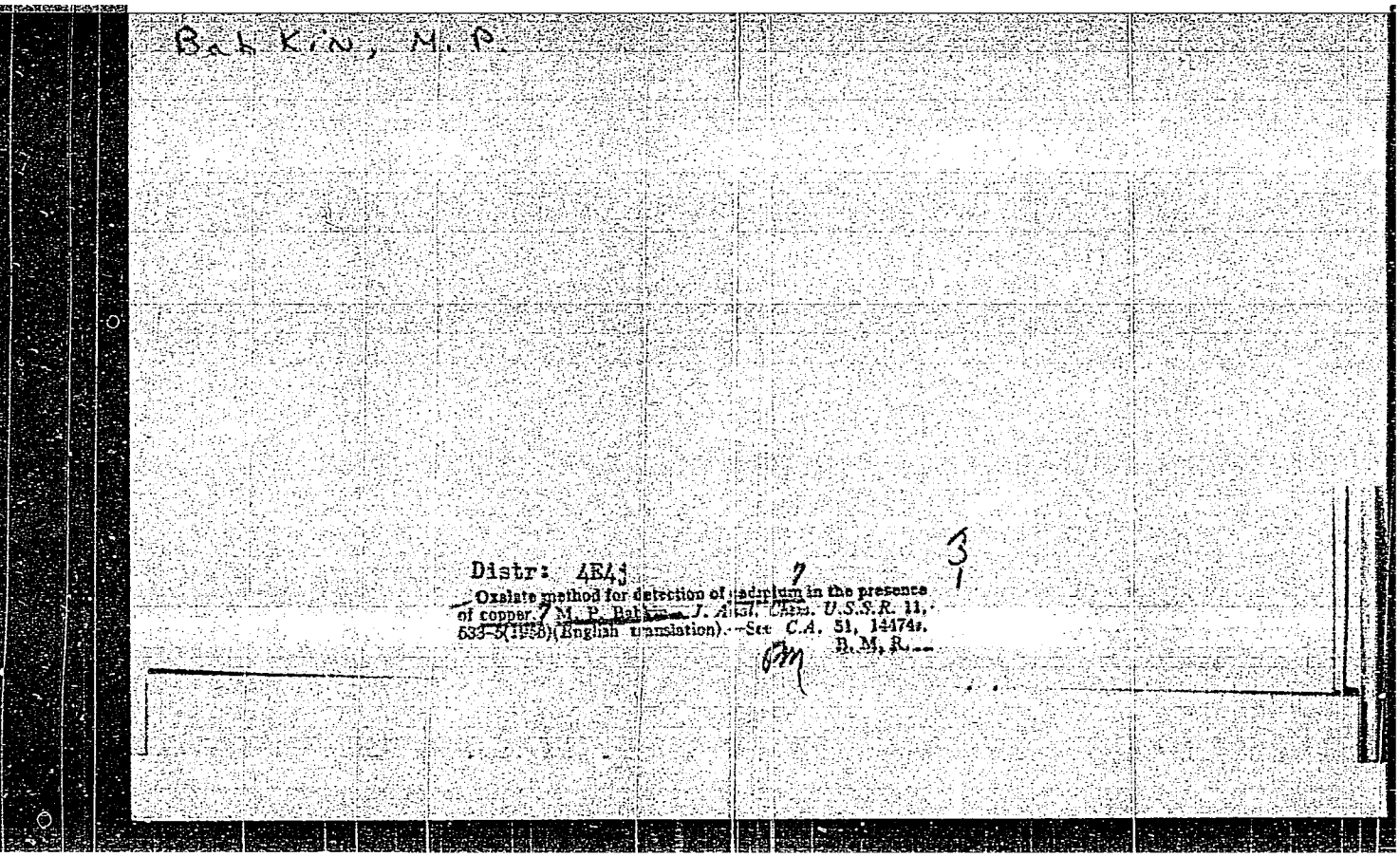
G. S. SMITH



Babkin, M. P.

1462. Oxalate method of detecting cadmium in the presence of copper. M. P. Babkin (Donetz Industrial Inst.). *Zhur. Anal. Khim.*, 1956, 11 (4), 503–504.—The method is based on the insolubility of cadmium oxalate in excess of ammonium oxalate soln. To the soln. containing Cd^{2+} and Cu^{2+}, saturated ammonium oxalate soln. is added until the copper oxalate redissolves. The ppt. is collected and washed with water and tested for Cd with Na_2S soln.

G. S. SMITH

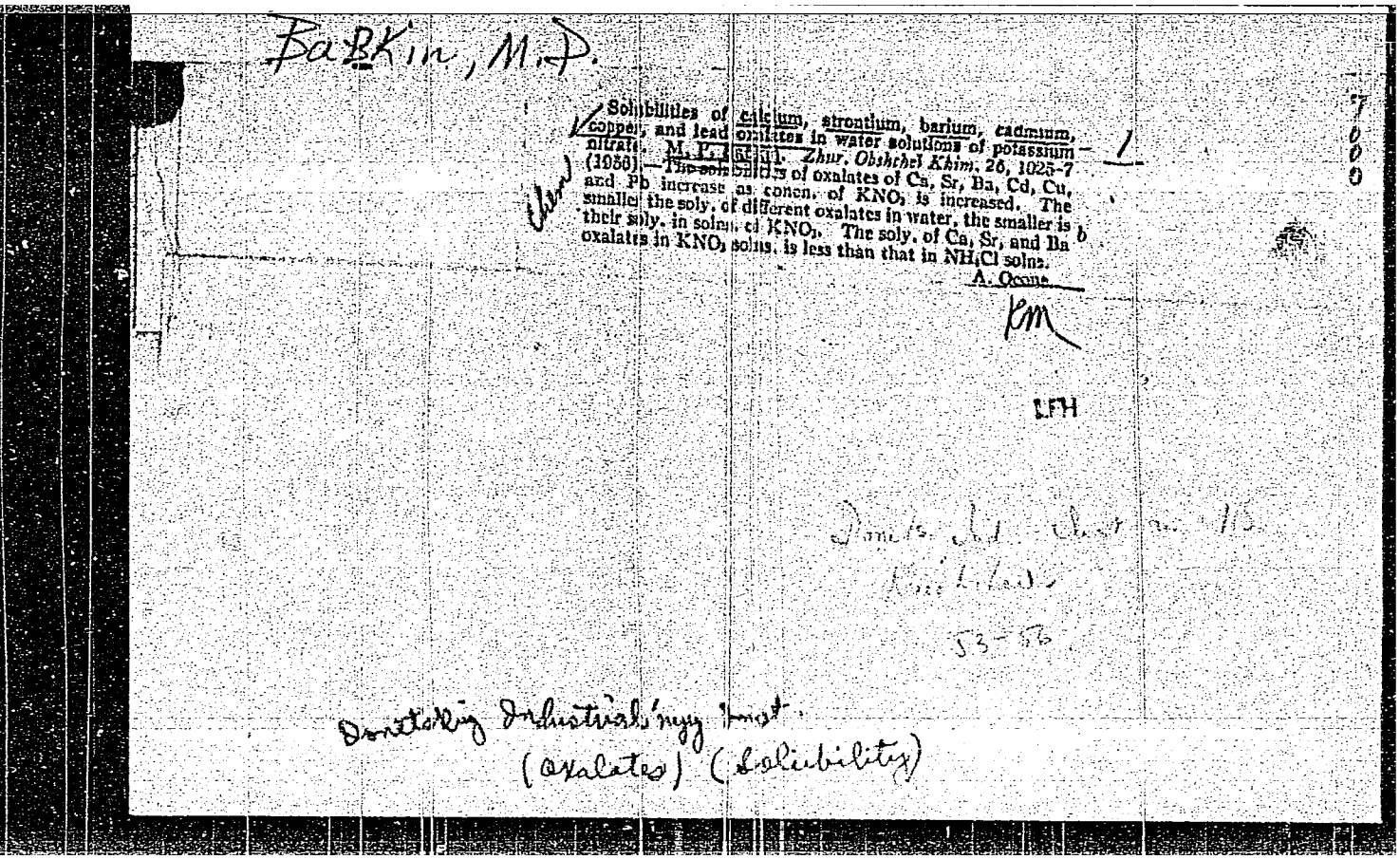


Bak Kin, M. P.

Distr: 4E4j

Oxalate method for detection of cadmium in the presence of copper. M. P. Bak'kin. *J. Anal. Chem. U.S.S.R.* 11, 633-5(1956)(English translation).—See *C.A.* 51, 14174i.

B. M. R.



Babkin, M.P.

Solubilities of calcium, strontium, barium, cadmium, copper, and lead oxalates in water solutions of potassium nitrate. M. P. Babkin. *Zhur. Obshchei Khim.* 26, 1025–7 (1956).—The solubilities of oxalates of Ca, Sr, Ba, Cd, Cu, and Pb increase as concn. of KNO_3 is increased. The smaller the soly. of different oxalates in water, the smaller is their soly. in solns. of KNO_3. The soly. of Ca, Sr, and Ba oxalates in KNO_3 solns. is less than that in NH_4Cl solns.
A. Ocone

LFH

Dnestr Industrial Inst.
(oxalates) (solubility)

БАБКИН, М.П.

USSR/Thermodynamics. Thermochemistry. Equilibria. Physico-Chemical Analysis. Phase Transitions. B-8

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26090

Author : M.P. Babkin
Inst : Donets Institute of Industries
Title : Hydrolysis of Iron, Manganese, Zinc and Cadmium Sulfides

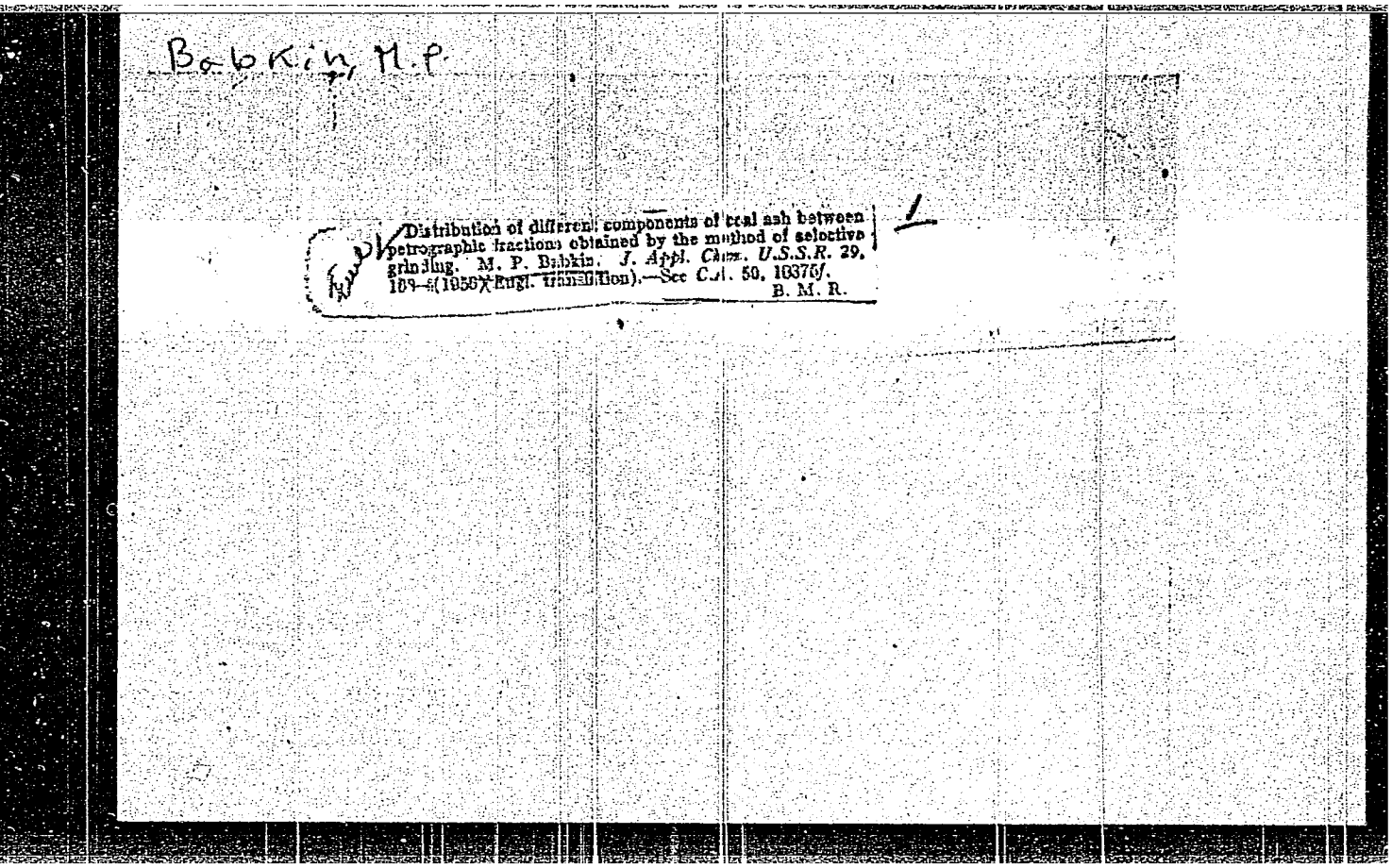
Orig Pub : Tr. Khim.-tekhnol. fak. Donetsk. industr. in-ta, 1956, vyp. 1, 3-13

Abstract : The hydrolysis process in sulfides of Fe (III), Fe (II), Mn, Zn and Cd was studied, and the method of work was described. The hydrolysis percentage was established depending on the weight of the sulfide, volume of water and the duration of time, during which the sulfide had been in water. The obtained data are shown in tables. It was shown that under the same conditions, the extent of hydrolysis in the studied series of sulfides rises together with their solubility in water.

Card : 1/1

Babkin, M.P.

Distribution of different components of coal ash between petrographic fractions obtained by the method of selective grinding. M. P. Babkin. *Zhur. Prikład. Khim.* 29, 147–8 (1956).—Chem. analyses of coal ash and its bright (I) and dull (II) fractions were made on 6 specimens. In all specimens the percentage content of SiO_2 and Al_2O_3 was higher in II than in I; Fe_2O_3, CaO, MnO, and S were higher in I. In 4 specimens the content of the sesquioxides, Fe_2O_3 and Al_2O_3, was higher in II, and in 2 specimens the content was the same. The distribution of MgO was irregular. I. B.



Babkin, M.P.

Distribution of different components of coal ash between petrographic fractions obtained by the method of selective grinding. M. P. Babkin. *J. Appl. Chem. U.S.S.R.* 29, 109–4 (1956) (Engl. translation).—See *C.A.* 50, 10376*f*.
B. M. R.

5(2) SOV/56-59-1-21/54

AUTHORS: Babkin, M. P., Gol'tsman, I. B., Voloshchets, A. L., Lotareva, V. I.

TITLE: Solubility of the Oxalates of Calcium, Strontium, Barium, Iron, Cobalt, Nickel, Manganese, Zinc, Cadmium, and Lead in Aqueous Solutions of Acetic Acid (Rastvorimost' oksalatov kal'tsiya, strontsiya, bariya, zheleza, kobal'ta, nikelya, margantsa, tsinka, kadmiya i svintsa v vodnykh rastvorakh uksusnoy kisloty)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 89-91 (USSR)

ABSTRACT: Where it is known in analytical chemistry to precipitate metals as oxalates there have been no numerical data on the solubility of oxalates in acetic acid although an addition of acetic acid is recommended for some precipitations of oxalate in analytical textbooks. For this reason the salts $CaC_2O_4 \cdot H_2O$, $SrC_2O_4 \cdot H_2O$, $BaC_2O_4 \cdot H_2O$, $MnC_2C_4 \cdot 2.5H_2O$, $ZnC_2O_4 \cdot 2H_2O$, $FeC_2O_4 \cdot 2H_2O$, $CoC_2O_4 \cdot 2H_2O$, $NiC_2O_4 \cdot 2H_2O$, $CdC_2O_4 \cdot 3H_2O$ and

Card 1/2 PbC_2O_4 have been kept in acetic acid of various concentrations

Solubility of the Oxalates of Calcium, Strontium, Barium, Iron, Cobalt, Nickel, Manganese, Zinc, Cadmium, and Lead in Aqueous Solutions of Acetic Acid

at room temperature for four days and then at 25° for four hours, whereafter the undissolved oxalate was removed by filtration and the oxalate contained in the acetic acid solution acidified with sulfuric acid was titrated with potassium permanganate. The solubility values are given in the table and lie between $0.5 \cdot 10^{-4}$ mole/l (for lead) and $43 \cdot 10^{-4}$ mole/l for barium. The solubility increases initially with an increase in the concentration of the acid and reaches its maximum for Ca and Pb at 1-2 ml/l, for Sr, Ba, Cd at 2ml/l, for Fe, Co, Zn at 1 ml/l and for Ni and Mn at 0.6 ml/l, whereafter it decreases slowly (Diagram, Fig 1). There are 1 figure, 1 table, and 13 references, 5 of which are Soviet.

ASSOCIATION: Kafedra analiticheskoy khimii Donetskogo industrial'nogo instituta (Chair of Analytical Chemistry of the Donets Institute of Industry)

SUBMITTED: July 14, 1958

BABKIN, M.P.; LOTAREVA, V.I.

Volumetric determination of gamma quantities of mercury in salts. Ukr.khim.zhur. 27 no.6:811-813 '61. (MIRA 14:11)

1. Donetskiy politekhnicheskiy institut, kafedra analiticheskoy i organicheskoy khimii.
(Mercury--Analysis)
(Salts)

BABKIN, M.P.

Determination of small amounts of manganese by the catalytic reaction between permanganate and oxalate ions. Zhur.anal.khim. 17 no.2: 256-257 Mr-Ap '62. (MIRA 15:4)

1. Donetsk Polytechnical Institute.
(Manganese--Analysis) (Oxalic acid)

BABKIN, M. P.; SECHAN, R. D.

Reaction of boron detection by methyl violet. Izv. vys. ucheb. zav.; khim. i khim. tekh. 5 no.5:847-848 '62.
(MIRA 16:1)

1. Donetskiy politekhnicheskiy institut, kafedra analiticheskoy i organicheskoy khimii.

(Boron—Analysis) (Methyl violet)

BABKIN, M.P.; VOLOSKOVETS, A.L.

Determination of the phenol content in waste waters by nitration. Nefteper. i neftekhim. no.3:7-8 '63. (MIRA 17:9)

1. Donetskiy politekhnicheskiy institut.

BABKIN, M.P.

Distinction of pure β-naphthol from α-naphthol and the photometric determination of β-naphthol. Zhur.anal.khim. 19 no.10:1271-1272 '64. (MIRA 17:12)

1. Donetsk Polytechnic Institute.

BABKIN, M.P.; VOLOSHOVETS, A.L.

Photocolorimetric determination of phenols by pyramidon. Ukr. khim. zhur. 30 no.12:1347-1349 '64 (MIRA 18:2)

1. Donetskiy politekhnicheskiy institut.

BABKIN, M.P.; SPITSIN, A.K.

Determination of phenols in water by diazotized paraaminoacetanilide. Izv. vys. ucheb. zav.; khim. i khim. tekh. 8 no.3:521-522 '65. (MIRA 18:10)

1. Donetskiy politekhnicheskiy institut, kafedra analiticheskoy i organicheskoy khimii.

BABKIN, M.S.; KHANIN, I.M.

Improvement of the thermal operating conditions of ovens and the heat expended for coking. Trudy DKHTI no.16:129-134 '63.
(MIRA 17:2)

BABKIN, M.S.; KHANIN, I.M.

Efficient charging of coke ovens and the heat expended for coking.
Trudy DKHTI no.16:169-179 '63. (MIRA 17:2)

KHANIN, I.M.; AMSTISLAVSKIY, D.M.; BABKIN, M.S.

Effect of the automation of coke-oven charging on the technological indices of their performance. Koks i khim. no.2:27-28 '63.
(MIRA 16:2)

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut (for Khanin).
2. Zhdanovskiy koksokhimicheskiy zavod (for Amstislavskiy, Babkin).
(Coke ovens) (Automation)

VEKSEL'MAN, Z.N.; AMSTISLAVSKIY, D.M.; BABKIN, M.S.

Increasing the temperature in the head heating flues. Koks i khim. no.3:19-21 '64. (MIRA 17:4)

1. Koksokhimstantsiya (for Veksel'man). 2. Zhdanovskiy koksokhimicheskiy zavod (for Amstislavskiy, Babkin).

ACC NR: AP7005681 SOURCE CODE: UR/0413/67/000/002/0155/0155

INVENTOR: Babkin, M. Ye.; Krivoshlykova, T. S.

ORG: none

TITLE: Closed, hollow, sealing profile for the pressurization of aircraft hatches and doors. Class 62, No. 190782.

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 155

TOPIC TAGS: aircraft fuselage, sealing device, aircraft pressurization, AIRFRAME COMPONENT, HERMETIC SEAL

ABSTRACT: An Author Certificate has been issued for a closed, hollow, sealing profile for the pressurization of aircraft hatches and doors, which operates on "pressure" (see Fig. 1). To improve its reliability and decrease unnecessary pressurization stresses, its upper part along the axis of symmetry is made with a cylindrical bulge extending outside as well as inside, and at the bottom is a bulging base with a spherical groove on the outside. Orig. art. has: 1 figure. [WH]

UDC: 629.135/.138

Card 1/2

ACC NR: AP7005681

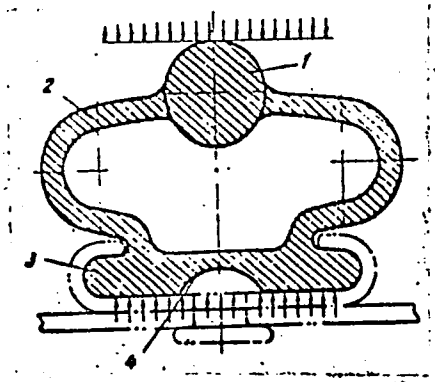


Fig. 1. Aircraft hatch and door seal

1 - Cylindrical bulge; 2 - flexible portion; 3 - base; 4 - spherical groove.

SUB CODE: 01, 13/ SUBM DATE: none/ ATD PRESS: 5115

Card 2/2

BABKIN, N.; KUZ'MIN, M., uchastkovyy vrach (Orekhovo-Zuyevo, Moskovskoy obl.)

Most advanced in Moscow Province. Zhil.-kom. khoz. 13 no.5: 14-15 My '63. (MIRA 16:8)

1. Predsedatel' domovogo komiteta pri domoupravlenii No.3 v gorode Orekhovo-Zuyevo, Moskovskoy obl. (for Babkin).
(Orekhovo-Zuyevo—Housing management)

BABKIN, N., inzh.

Eliminating faults in television. Radio no.11:33-34 N '65. (MIRA 18:12)

ALEKSEYEV, A.I.; Prinimali uchastiye: IVANOV, A.D.; LEBEDEV, B.F.; DARENSKIKH, P.V.; BABKIN, N.I.; MEL'NIKOV, V.G.; NIKITIN, V.V.; MUKHAMEDOV, K.A.

Automatic welding of the cylindrical part of a decomposer shell. Avtom. svar. 14 no.8:78-82 Ag '61. (MIRA 14:9)

1. Trest "Uralstal'konstruktsiya.
(Electric welding)
(Aluminum industry--Equipment and supplies)

ZHUKOVSKIY, Yevgeniy Pavlovich; BABKIN, N.I., red.; OKOLELOVA, Z.P., tekhn. red.

[Produce inexpensive pork] Proizvodit' deshevuiu svininu. Moskva, Sel'khozizdat, 1963. 86 p. (MIRA 17:1)

BELOTSERKOVSKIY, Grigoriy Bentsionovich; BABKIN, N.I., inzhener, retsenzent; IVANOV-TSYGANOV, A.I., kandidat tekhnicheskikh nauk, redaktor; PETROVA, I.A., izdatel'skiy redaktor; SHCHERBAKOV, P.V., tekhnicheskiy redaktor

[Antennas] Antenny. Moskva, Gos. izd-vo obor. promyshl., 1956. 495 p. (Radio--Antennas) (MLRA 10:1)

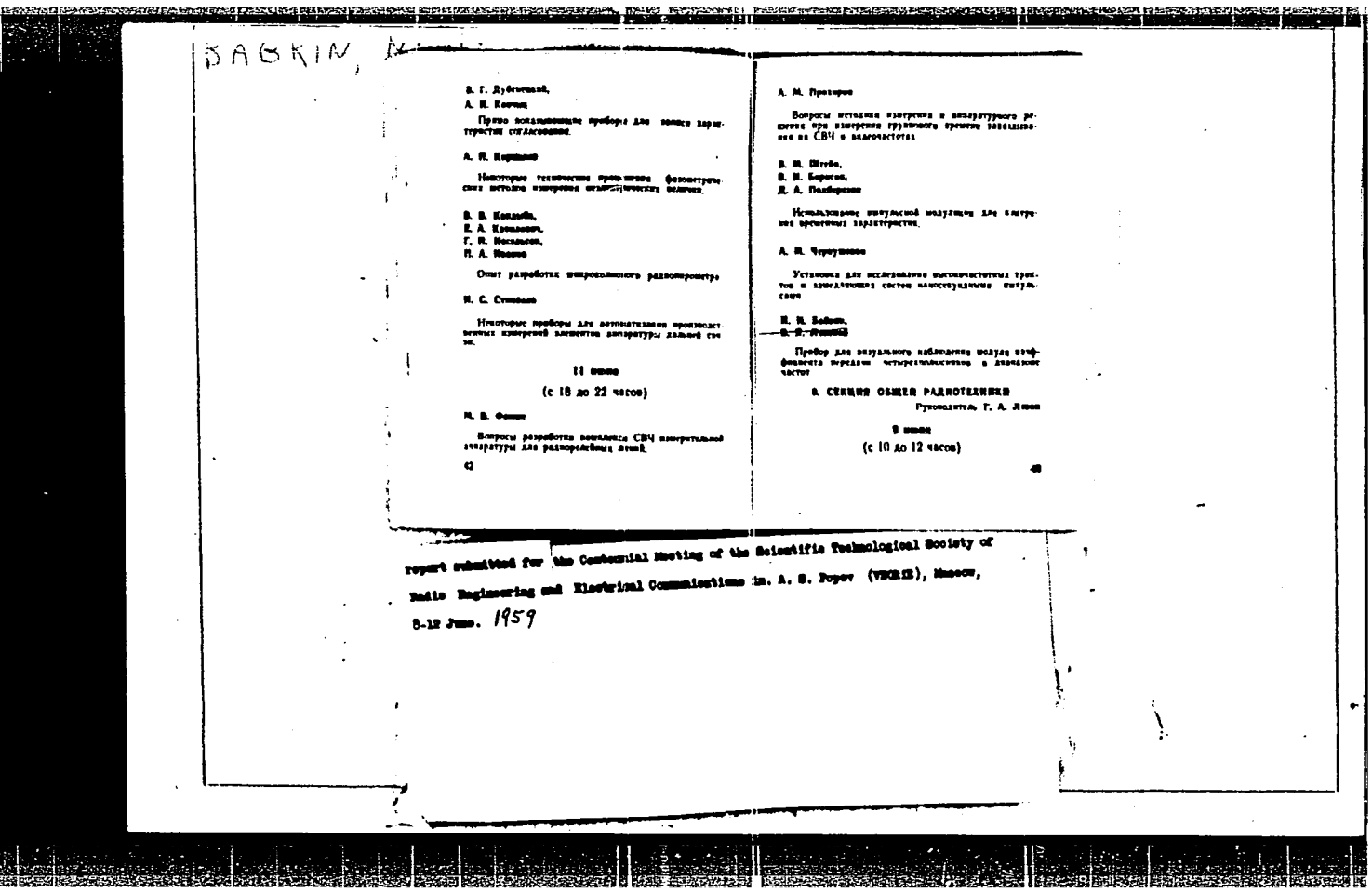
BABKIN, Nikolay Ivanovich; FEDOROV, L.V., otvetstvennyy redaktor; TROITSKIY, L.V., redaktor; SUSHKEVICH, V.I., tekhnicheskiy redaktor

[Repairing the KVN-49 television set] Remont televizorov KVN-49. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1957. 116 p. (Television--Receivers and reception) (MLRA 10:7)

[redacted], A. [redacted], inzhener.

Installing the PTP-1 attachment for the first series "Zvezda" television receivers. Vest.sviazi 17 no.6:28-29 Je '57.
(MLRA 10:8)

(Television--Receivers and reception)



SAGKIN, M.

В. Г. Дубинский,
А. И. Кочин

Прибор показывающие приборы для записи характеристик согласования

А. И. Корнилов

Некоторые технические применения фазометрических методов измерения электрических величин

В. В. Кондаль,
Е. А. Комаровер,
Г. И. Носальков,
П. А. Новиков

Опыт разработки широкополосного радиометра

И. С. Стишков

Некоторые приборы для автоматизации производственных измерений электрических параметров диэлектрических материалов

11 июня
(с 18 до 22 часов)

М. В. Фонин

Вопросы разработки комплекса СВЧ измерительной аппаратуры для радиорелейных линий

42

А. М. Прохоров

Вопросы методики измерения и аппаратурного решения при измерении группового времени запаздывания на СВЧ в волноводах

В. М. Штейн,
В. Н. Борисов,
Д. А. Подберезин

Использование импульсной модуляции для измерения временных характеристик

А. М. Черепанов

Установка для исследования высокочастотных трактов и аналогичных систем квазистационарными импульсами

Н. Н. Бобков,
[redacted]

Прибор для визуального наблюдения модуля коэффициента передачи четырехполюсников в диапазоне частот

8. СЕКЦИЯ ОБЩЕЙ РАДИОТЕХНИКИ
Руководитель Г. А. Ляпин

9 июня
(с 10 до 12 часов)

48

report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (VNORIE), Moscow, 8-12 June. 1959

SOV/111-59-2-17/27

6(6)

AUTHOR: Babkin, N.I., Chief Engineer

TITLE: On Several Changes in Sweep Circuits for Increasing the Operating Stability of Television Sets (O nekotorykh izmeneniyakh v skhemakh razvertok, povyshayushchikh stabil'nost' raboty televizorov)

PERIODICAL: Vestnik svyazi, 1959, Nr 2, pp 28-29 (USSR)

ABSTRACT: The article describes a blocking-generator circuit with positive grid, and an automatic phase tuning network, and analyses its operation in one model of TV receiver (the "Rubin-A"). Blocking generators with positive grids are used in a number of TV sets, the "Leningrad T-3", "Luch", "Ekran", "Temp-2", and "Rubin" among others. The advantage of this circuit is in the greater angle of inclination of the discharge curve of the blocking-generator grid circuit capacitor, resulting in greater frequency stability. Even greater stability is obtained using a blocking-generator with an oscillatory circuit in the plate (as in the "Rubin-A") or

On Several Changes in Sweep Circuits for Increasing the Operating Stability of Television Sets

grid (as in the "Start") circuits, with a frequency of its own, close to that of the blocking generator. With such a circuit the discharge curve of the grid capacitor is even steeper. A number of current TV receivers use the system of inertia synchronization, where the synchro-pulses act indirectly on the frequency of the blocking-generator through a system of automatic phase tuning (APT), with a discriminator (phase detector), the magnitude and polarity of the voltage on the output of which depends on the phase correlation of the synchro-pulse and saw-tooth voltage of the blocking-generator at the input. The output of the discriminator is connected to an integrating network and a DC amplifier, the plate circuit of which is joined to the grid circuit of the blocking generator, such that changes in voltage at the plate of the DC amplifier vary the charge on the blocking-generator grid capacitor, and hence the frequency of the generator. The author then analyses the operation of this circuit in the "Rubin-A", illustrating the

On Several Alterations in Sweep Circuits for Increasing the Operating Stability of Television Sets

phase correlation of the synchro-pulse and saw-tooth voltage, and the controlling effect on the frequency of the blocking-generator. The APF system operates normally when the arrival time of the synchro-pulse corresponds with the flyback of the saw-tooth voltage. The horizontal sweep circuit of the "Rubin-A" uses a multivibrator, with which frequency change is accomplished by only a small control voltage. In conclusion, the author notes that stable operation of the APT circuit demands the use of high quality components. There are 3 circuit diagrams and 2 diagrams.

ASSOCIATION: Televizionnoye atel'ye Nr 36 (Television Studio Nr 36)

BABKIN, N.I.

Detection of faults in the vertical sweep stage of a television receiver. Vest. sviazi 19 no.11:24-26 N '59. (MIRA 13:8)

1. Glavnyy inzhener televizionnogo atel'ye No.36.
(Television--Receivers and reception)

9.3140

77203
SOV/109-5-1-16/20

AUTHORS: Babkin, N. I., Litvinov, G. D.

TITLE: Installation for Continuous Observation of the Angle of Rotation of the Polarization Plane by Ferrite, as Function of the Magnetizing Current and on Frequency of SHF Oscillations. Brief Communication

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol 5, Nr 1, pp 169-170 (USSR)

ABSTRACT: During the development of ferrite devices it is often necessary to determine the relation of the angle of rotation of the polarization plane with respect to the magnetization current (I) or to the SHF frequency.

$$\alpha = \psi_1(I), \quad \alpha = \psi_2(f). \qquad (1)$$

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The determination of these characteristics is done point-by-point and requires considerable time; therefore, the scheme as shown on Fig. 1 is used for a continuous measurement of these characteristics. The signal from the SHF oscillator enters through the intermediate components of the set into the auxiliary ferrite device (7) with the full magnetic field, and after being subjected to the influence of the coil current having a frequency Ω = 400 cps, the polarization plane of the output wave $TE_{1,1}$ fluctuates within a certain angle. The SHF signal further passes through the other components and from the wave transformer $TE_{1,1} - TE_{1,0}$ at the end of the rotary transition (9) enters the detector head (11). Since the polarization plane oscillates the whole time with frequency Ω, at the output of the detector appear variable components of the signal with frequencies Ω and 2Ω. Figure 2 shows the oscillations. The signal with

Installation for Continuous Observation of the Angle of Rotation of the Polarization Plane by Ferrite, as Function of the Magnetizing Current and on Frequency of SHF Oscillations. Brief Communication

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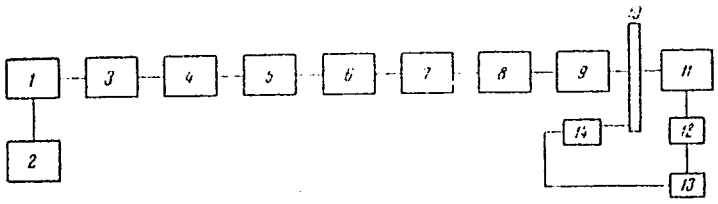

Fig. 1. (1) h-f Generator; (2) power supply; (3) ferrite decoupler; (4) alternating attenuator; (5) ferrite decoupler; (6) wave transformer $TE_{1,0} - TE_{1,1}$; (7) auxiliary ferrite device; (8) element to be tested; (9) rotary transition; (10) limb with degree scale; (11) detector section; (12) type 28-I voltage amplifier; (13) power amplifier; (14) asynchronous motor.

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Installation for Continuous Observation of the Angle of Rotation of the Polarization Plane by Ferrite, as Function of the Magnetizing Current and on Frequency of SHF Oscillations. Brief Communication

77705
SOV/109-5-1-16/20

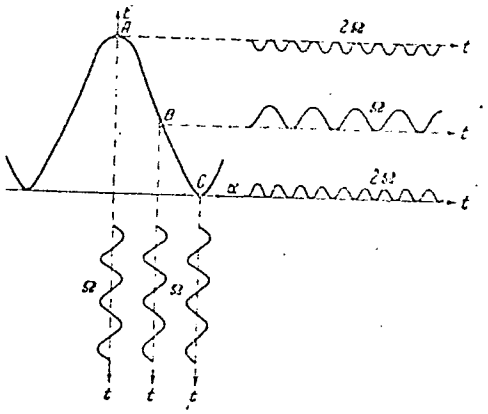

Fig. 2.

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frequency Ω is used for the tracking system, consisting of components 12, 13, 14 and reducer, which rotates (10,11). The system will be in equilibrium when the output signal with frequency Ω is zero. Whether this will correspond to point A or C on Fig. 2 depends on the phase of the feeding voltage on one of the motor windings. If the polarization plane of the wave shifts under the influence of change in signal frequency of the magnetization current of the ferrite device being tested, an error signal with frequency Ω will appear (point B on Fig. 2), and the motor will turn the detector section to the new equilibrium location. A klystron of type K-29 is used as oscillator. The operating range is approximately 10%, and the frequency change is made by turning a handle which completes the retuning of the klystron resonator and simultaneously establishes the optimum voltage on the reflex-electrode. The oscillator is equipped with a scale for approximate readings of

frequencies. The results of experiments conducted with this installation are as follows: (1) Time of determining the above characteristics is of the order of 1 min. (2) The maximum difference between the readings on this set and determining angles by previous methods is 3^{o}. (3) The installation works for a variation of the power of the SHF oscillator up to 3-4 times. (4) The installation is simple and consists basically of the same components which are used for the previous method of determining the characteristics by points.

SUBMITTED: August 17, 1959

Card 6/6

24.2200

77204
SOV/109-5-1-17/20

AUTHOR: Babkin, N. I., Lozovoy, V. Ya.

TITLE: Apparatus for Visual Observation of Frequency Characteristics of Ferrite Arrangements. Brief Communication

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol 5, Nr 1, pp 171-172 (USSR)

ABSTRACT: The apparatus presented allows one to determine the magnitude of frequency weakening on the screen of the electron ray tube. Figure 1 shows the block diagram of this apparatus. The HF signal from the Klystron generator (2) follows through the series of blocks shown on Fig. 2 and enters the vertically deviating plates of the oscilloscope. The horizontally deviating plates of the oscilloscope are supplied by a voltage proportional to the frequency of the HF generator, thus giving spectral characteristics of the generated oscillations. The tested element is connected between 5 (calibrated attenuator) and 7 (decoupling attenuator), the attenuator 5 being temporarily disconnected. The

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Apparatus for Visual Observation of Frequency Characteristics of Ferrite Arrangements. Brief Communication

77204
SOV/109-5-1-17/20

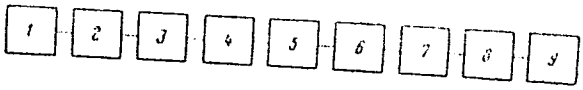

Fig. 1. Block diagram for visual observation of frequency characteristics of ferrite arrangements. (1) Block of Klystron supply; (2) HF generator; (3) ferrite valve; (4) wavemeter; (5) calibrated attenuator; (6) tested four-terminal unit; (7) decoupling attenuator; (8) detector section; (9) indicating block.

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curve obtained on the screen of the scope is sketched. The tested element is then disconnected and the calibrated attenuator 5 is inserted into the circuit. The calibrated attenuator must then be so adjusted as to give a coincidence between the two curves of the screen of oscilloscope obtained with and without the attenuator. The frequency weakening may be read on the scale of the calibrated attenuator. The accuracy of this arrangement is ±0.8 db. The frequency adjustment is obtained mechanically using a reversible motor. A photograph of the arrangement is given. There are 2 figures.

SUBMITTED: August 17, 1959

BARKIN, N.; USHAKOV, A.

Disturbance of the vertical sync in "T-2 Leningrad" television receivers. Radio no.7:33 Jl '61. (MIRA 14:10)
(Television--Receivers and reception)

BABKIN, N., inzh. (Moskva)

Concerning certain faults in television receivers. Radio no.5: 44-45 My '62. (MIRA 15:5)
(Television--Receivers and reception)

BABKIN, N.I.

Experience in the work of a television studio. Vest. sviazi 22 no.2:24-25 F '62. (MIRA 15:2)

1. Glavnyy inzh. televizionnogo atel'ye No.7 g. Moskvy.
(Television stations)

BELOTSERKOVSKIY, Grigoriy Bentsionovich; BABKIN, N.I., inzh., retsenzent; ZHDANOV, V.K., inzh., retsenzent; KALANTAROV, M.N., inzh., retsenzent; TELEZHKO, M.I., inzh., retsenzent; FAKTOROVICH, M.D., inzh., retsenzent; FEDOTOV, M.D., inzh., retsenzent; SAMOYLOV, G.V., inzh., red.; IVANOV-TSYGANOV, A.I., kand. tekhn. nauk, red.; BOGOMOLOVA, M.F., red. izd-va; ROZHIN, V.P., tekhn. red.

[Antennas]Antenny. Izd.2., perer. i dop. Moskva, Oborongiz, 1962. 491 p. (MIRA 16:2)
(Antennas (Electronics))

BABKIN, S.N.

Elektrification as an important condition for stepping up agricultural production. Energ. i elektrotekh. prom. no.3: 3-4 Jl-S '64. (MIRA 17:11)

BABKIN, N., inzh. (Moskva)

Work practices in television repair shop No.7. Radio no.5:43-44 My '63. (MIRA 16:5)
(Television--Maintenance and repair)

[redacted]

[redacted]

[redacted]

(MIRA 18:1)

L 18606-65 EWT(1)/EWA(h) Peb ASI(a)-5/ESD(c)/ESD(t)
ACCESSION NR: AP4045504 S/0109/64/009/009/1723/1724

AUTHOR: Kaplun, V. A.; Babkin, N. I.; Goryachev, B. G.

TITLE: Shielding properties of shf wire grids

SOURCE: Radiotekhnika i elektronika, v. 9, no. 9, 1964, 1723-1724

TOPIC TAGS: shielding grid, shielding wire grid, shf shielding wire grid, shielding, EM shielding, rf shielding, interference, rf interference, RFI

ABSTRACT: Fig. 1. of the Enclosure contains curves showing the dependence of wave field attenuation on the parameters of screen grids used for rf shielding. The calculations for these curves are based on the assumption of normal incidence of an electromagnetic plane wave on a unidimensional infinite, flat grid made of nonmagnetic wires with circular cross section and infinite conductivity. It was further assumed that the electric vector of the incident wave was parallel to the grid. An analysis of the calculations and of experimental data show that the calculations are valid for attenua-

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L 18606-65
ACCESSION NR: AP4045504

tions of up to 70—80 db.

0

ASSOCIATION: none

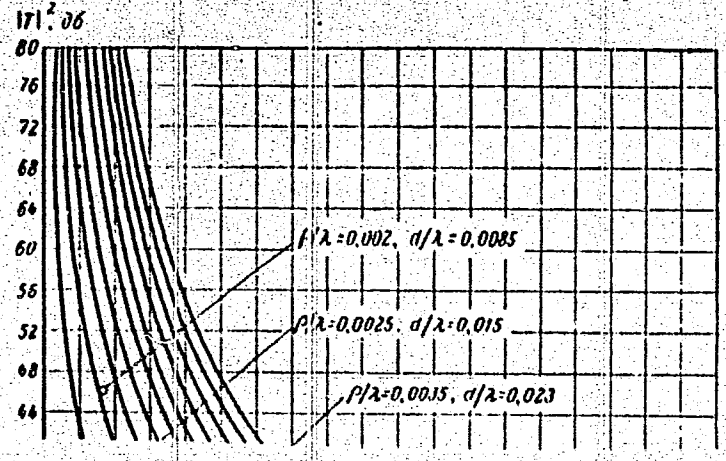
SUBMITTED: 01Aug63 ENCL: 02 SUB CODE: EC

NO REF SOV: 001 OTHER: 001

Card 2/4

L 18606-65
ACCESSION NR: AP4045504

ENCLOSURE: 01



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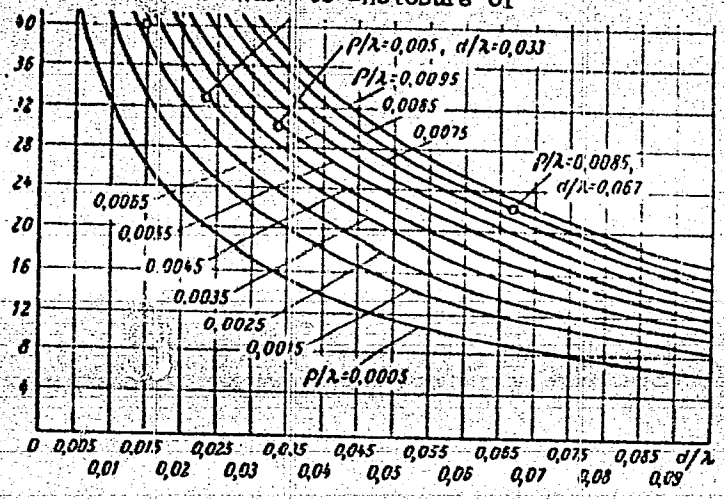
L 18606-65

ACCESSION NR: AP4045504

ENCLOSURE: 02

continued to Enclosure 01



Curves $|T|^2 = f(d/\lambda)$ by $\rho/\lambda = \text{var}$ (solid lines - calculations; circles - experimental points)

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VINOGRADOV, Leonid Nikolayevich; BABKIN, N.I., otv. red.; BORNOVOLOKOV, E.P., red.; VEYTSMAN, G.I., red.

[Learn how to repair your own television receiver] Uchites' remontirovat' svoi televizor. Izd.2., dop. Moskva, Sviaz', 1964. 222 p. (Biblioteka "Televizionnyi priem," no.13) (MIRA 17:9)